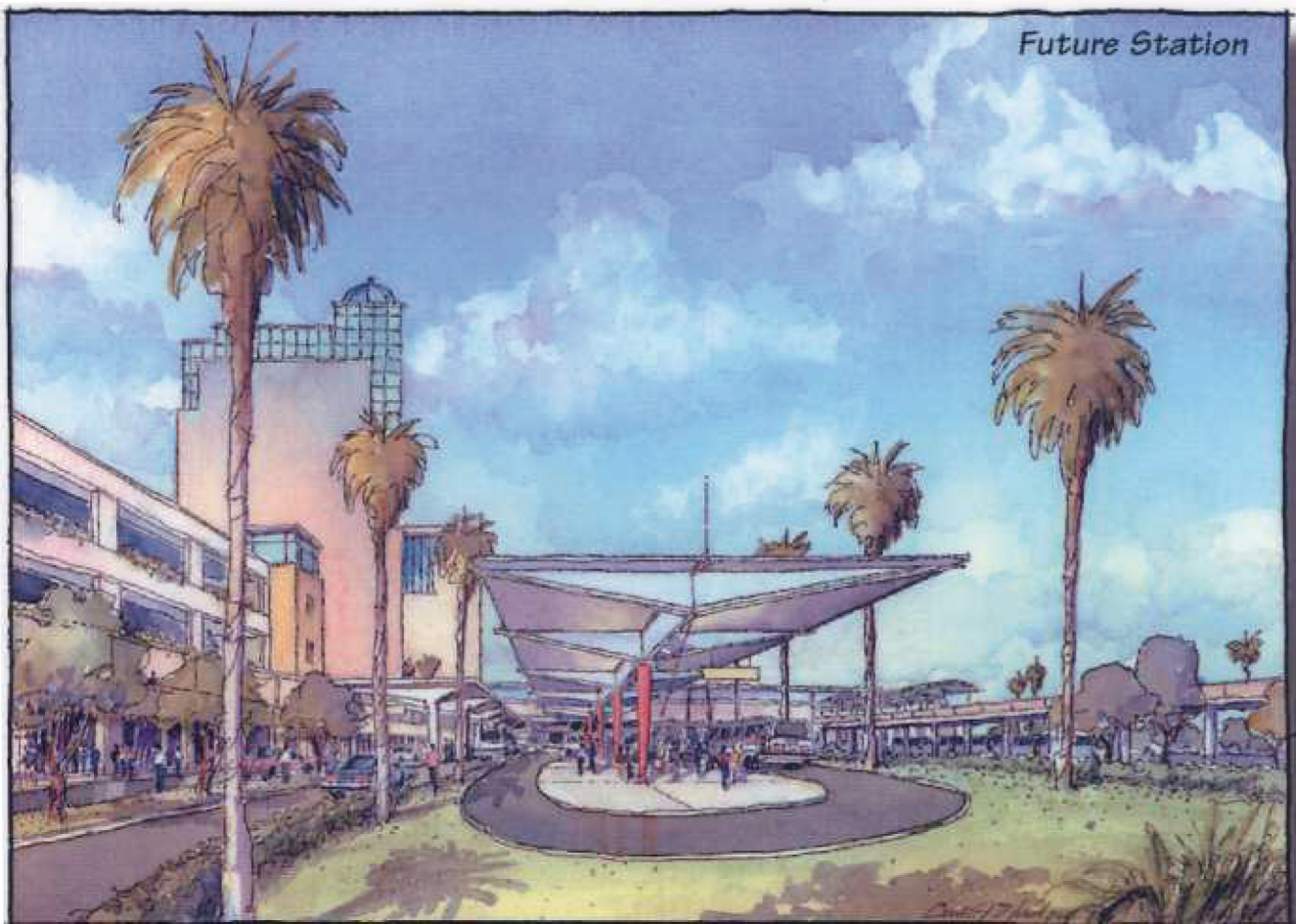




Metropolitan Dade County

Metropolitan Planning
Organization

Golden Glades Multimodal Transportation Facility Feasibility Study Final Report



Prepared by:
ICF Kaiser Engineers, Inc.

in association with:

- Bermello, Ajamil & Partners, Inc.
- Williams-Russell & Johnson, Inc.



March 1994



METROPOLITAN
DADE COUNTY

METROPOLITAN
PLANNING
ORGANIZATION

GOLDEN GLADES MULTIMODAL TRANSPORTATION FACILITY FEASIBILITY STUDY

FINAL REPORT

Prepared by:

◆ **ICF KAISER**

In association with:

- **BERMELLO, AJAMIL & PARTNERS, INC.**
- **WILLIAMS-RUSSELL & JOHNSON, INC.**

March, 1994

TABLE OF CONTENTS

<u>TITLE</u>	<u>PAGE</u>
BACKGROUND	1
PURPOSE	1
STUDY AREA	2
METHODOLOGY	2
ASSUMPTIONS	2
STEERING COMMITTEE	3
PREVIOUS STUDIES	3
CURRENT ACTIVITIES	3
EXISTING CONDITIONS	4
MODES	4
BENEFITS	5
ALTERNATIVES	5
DIFFERENCES IN SCHEMES	6
IVHS INTERFACE	7
EVALUATION OF ALTERNATIVES	7
PREFERRED ALTERNATIVE	7
TRAFFIC MOVEMENTS	8
COST	8
IMPLEMENTATION	9
CONCLUSIONS	10
RECOMMENDATIONS	10
APPENDIX A - STEERING COMMITTEE EVALUATIONS OF ALTERNATIVE CONCEPTUAL LAYOUTS	A-1

LIST OF TABLES

<u>TABLE</u>	<u>TITLE</u>	<u>PAGE</u>
1	EVALUATION OF ALTERNATIVE SCHEMES	11
2	MAGNITUDE COST ESTIMATE	13

LIST OF FIGURES

<u>FIGURE</u>	<u>TITLE</u>
1	LOCATION MAP
2	SITE ANALYSIS
3	SCHEME A - PHASE 1
4	SCHEME A - BUS CIRCULATION
5	SCHEME A - PNR CIRCULATION
6	SCHEME A - KNR CIRCULATION
7	SCHEME A - BICYCLE/PEDESTRIAN CIRCULATION
8	SCHEME A - PHASE 2
9	SCHEME A - PHASE 3
10	SCHEME B - PHASE 1
11	SCHEME B - BUS CIRCULATION
12	SCHEME B - PNR CIRCULATION
13	SCHEME B - KNR CIRCULATION
14	SCHEME B - BICYCLE/PEDESTRIAN CIRCULATION
15	SCHEME B - PHASE 2
16	SCHEME B - PHASE 3
17	SCHEME C - PHASE 1
18	SCHEME C - BUS CIRCULATION
19	SCHEME C - PNR CIRCULATION
20	SCHEME C - KNR CIRCULATION
21	SCHEME C - BICYCLE/PEDESTRIAN CIRCULATION
22	SCHEME C - PHASE 2

LIST OF FIGURES (continued)

<u>FIGURE</u>	<u>TITLE</u>
23	SCHEME C - PHASE 3
24	SINGLE-LEVEL RAIL SCHEMATIC
25	MULTI-LEVEL RAIL SCHEMATIC
26	PREFERRED ALTERNATIVE - PHASE 1
27	PREFERRED ALTERNATIVE - BUS CIRCULATION
28	PREFERRED ALTERNATIVE - PNR CIRCULATION
29	PREFERRED ALTERNATIVE - KNR CIRCULATION
30	PREFERRED ALTERNATIVE - BICYCLE CIRCULATION
31	PREFERRED ALTERNATIVE - PEDESTRIAN CIRCULATION
32	TO/FROM I-95 SOUTH
33	TO/FROM SR 9
34	TO/FROM US 441
35	TO/FROM I-95N, SR 826, TPK, 167TH ST.
36	PREFERRED ALTERNATIVE - PHASE 2
37	PREFERRED ALTERNATIVE - PHASE 3
38	PREFERRED ALTERNATIVE - PHASE 4
39	PREFERRED ALTERNATIVE - CROSS SECTIONS

BACKGROUND

The great majority of transportation trips in Dade County are made by drivers alone in their own private automobiles, also referred to as single occupancy vehicles (SOV's). For many trips the SOV is the appropriate mode of travel, but where trips are made to congested areas, or to destinations where many other travelers are also going, a more appropriate mode is some form of high occupancy vehicle (HOV). These HOV's can be public transit: locally Metrobus, Metrorail, or Tri-Rail; or they can be car- or van-pool vehicles. Travelers avoid using HOV for a variety of reasons, such as inconvenience or a desire for privacy. Travelers use HOV for reasons such as avoiding roadway congestion and the resulting unpleasant driving conditions, or expensive parking. Rarely is HOV use more expensive than using SOV's when all costs to the traveler are taken into consideration.

SOV travel continues to increase in Dade County, but roadways within the County are quickly reaching their maximum capacities or have already met or surpassed them. At the same time, the high costs of construction and right-of-way acquisition make increasing the capacity of most roads prohibitive. The other physical impacts of increased traffic, such as air pollution, noise, and fuel consumption also argue against more road widening. The Florida Department of Transportation (FDOT) has recently (1991) issued a policy which limits the number of lanes on limited-access roadways to eight, plus two for HOV if provided.

A multimodal transportation facility is a structure at which a traveler may change from one transportation mode to another in order to reach a destination. This structure may be as simple as a plain paved lot, or it may be as complex as a Union Station in Washington, D.C., or a Grand Central Station in New York City. An efficient and pleasant multimodal facility can make it easier for people to change modes, either from their own cars to some HOV mode, or from one HOV mode to another, and make it more likely that they will use some form of HOV.

PURPOSE

The Golden Glades Interchange is a complex confluence of limited-access and surface roads in the northeast part of Dade County. The Palmetto Expressway (SR 826), Interstate 95 and Florida's Turnpike intersect at this location. The first two of these are major freeways of the first magnitude, being the two most heavily travelled roadways in Dade County. I-95 is heavily congested most of the day, not just at peak periods, carrying local residents about their daily business and millions of tourists along the eastern seaboard from Maine to Miami. Florida's Turnpike begins here at Golden Glades on its two hundred sixty-five mile run to the northwest, taking many more travellers to Orlando and north Florida, and connecting at Wildwood to the I-75 corridor accessing Atlanta. Three major arterials, SR 9, US 441, and NW 167th Street also converge on this one location, funneling tens of thousands more automobiles daily into the Golden Glades.

During the evolution of the Interchange, part of the land between two of the roadways was converted into a Park and Ride (PNR) Lot. This PNR lot is the largest in the state, able to accommodate up to 1300 automobiles. The purpose of this study was to determine the feasibility of developing a multimodal facility at the Golden Glades PNR lot. In fact, a multimodal facility already exists there, although it is not generally thought of as such. Modes which currently use the facility are not only the SOV'S and HOV'S expected at a PNR lot, but also Tri-County Commuter Rail (Tri-Rail), and local and express buses from both Dade and Broward Counties. The question, therefore, could more specifically be posed as "What form should the Golden Glades Multimodal Facility take in the future?"

The time is right to ask such a question. The Intermodal Surface Transportation Efficiency Act of 1991, commonly referred to as ISTEA, has been called not an evolution, but a revolution in the way transportation systems are planned and executed. This act and the Clean Air Act Amendments present the opportunity and the mandate to look at transportation as an overall system, rather than relying on any one mode to the exclusion of others. All modes are necessary in order for the whole system to work, and easy interchanges among modes are crucial to getting the maximum benefit out of every mode.

STUDY AREA

The area studied included the PNR lot itself, and other areas bounded by the roadways and ramps of the Golden Glades Interchange. All this land area, as well as the roadway right-of-way, is owned by the State of Florida and managed by FDOT.

METHODOLOGY

The study design encompassed the following tasks, generally sequentially executed, to evaluate the feasibility of developing the Golden Glades Multimodal Center:

- Identifying transportation access modes to be studied.
- Developing background information about previous studies in the area.
- Developing several alternative configurations that integrate the potential service systems into a supportive facility.
- Evaluating the final proposed alternatives based on all relevant criteria.
- Preparing recommendations for development of the multimodal facility, including a plan for its phasing, possible schedules and costs, and conceptual site plans.
- Preparing a study report.

ASSUMPTIONS

Assumptions for the study were:

- The Golden Glades PNR lot will continue to be served by the public transportation modes which currently operate at the site. Ridership and service are expected to gradually increase.
- Access to the lot from surrounding roadways is somewhat difficult, and will not improve dramatically in the near future.
- The alignment of the railroad tracks will not be altered.
- High-speed rail will evolve from and may succeed Amtrak service. It will use the same right-of-way as Tri-Rail, with improvements to rails and track bed.

STEERING COMMITTEE

Metro-Dade MPO has formed a committee of representatives from involved agencies to provide input and advice to the consultant and review his findings from their own agency's perspective. The committee included representatives from:

- FDOT District Six (Planning, Programs)
- Metro-Dade Transit Authority
- Tri-County Commuter Rail
- Metro-Dade Planning
- Metro-Dade Public Works
- Metro-Dade MPO
- Gold Coast Commuter Services

PREVIOUS STUDIES

One recent study is directly relevant to the Golden Glades PNR Lot. The Metro-Dade Transit Transitional Analysis, completed in January 1993, included an alternative which would extend Metrorail north along NW 27th Avenue to SR 9, northeast on SR 9 to Golden Glades, northwest along Florida's Turnpike to Joe Robbie Stadium and back to NW 27th Avenue. This alternative would therefore add Metrorail to the modes available at Golden Glades.

A Project Development and Environmental (PD&E) Study funded by FDOT District Six and completed in 1988 examined the roadways and ramps of the overall interchange. It concluded that many new ramps and bridges would be required to make the interchange operate at capacity, and estimated the total cost at some \$500 million (1988 dollars). It recommended priorities for the various items of work, one of the earliest of which is the HOV ramp described below.

CURRENT ACTIVITIES

FDOT is currently constructing a flyover ramp on I-95 over the Golden Glades interchange. This ramp will connect the HOV lanes on I-95, which are currently discontinuous, north and south of the Interchange.

At present, the rail service, both freight and passenger, both north- and southbound, operates on only one track through the Golden Glades Interchange. Tri-Rail will soon begin adding a second track to allow more flexible scheduling of trains, and to accommodate more commuter rail service.

The Greyhound Bus Station located at Biscayne Boulevard and NE 163rd St. will be displaced by widening of that intersection. A proposal has been made to integrate it ultimately into the multimodal facility.

A separate study is underway to determine the feasibility of extending Metrorail to the north along 27th Avenue; or on a combination of 27th Avenue, SR 9 through Golden Glades, north on Florida's Turnpike to Joe Robbie Stadium, and beyond into Broward County. The study is also considering continuation of the line to the Broward/Palm Beach County Line.

EXISTING CONDITIONS

As stated above, a de facto multimodal facility already exists at the Golden Glades PNR lot. Modes which currently use the facility are Commuter Rail, local and express bus, SOV, and car pool/HOV.

Although interfaces occur among the listed modes, the overall impression of the "facility" (which is more of a big parking lot) is something of non-connectivity. There is no apparent overall organization or control, and it seems that the four public entities which use the facility (FDOT, Tri-Rail, MDTA, Broward County Transit) have not coordinated their efforts to the extent possible. Improvements (or additions) in transportation service seem to have occurred at different times, and taken effect without integrating previous services. In addition, and probably most importantly, the surrounding and transecting roadways add confusion to the facility. For example, drivers eastbound on SR 826 wishing to go north on I-95 must actually perform three right turns, drive through the park and ride facility, and execute several merges and weaves before achieving their desired roadway. The total parking available at the Golden Glades PNR is about 1300 spaces, but another lot to the east of US 441, which has potentially about the same number of spaces, is currently used for storage by the contractor constructing the improvements to I-95. About half the capacity of the current PNR lot is being used on typical weekdays.

Aside from the parking areas and roads, the existing structures are few and minimal. The bus platform has a roof, four bus bays, a few benches and an unoccupied information booth. The commuter rail platform is not in the parking lot itself, but must be reached by a pedestrian bridge which crosses SR 9, a four-lane divided highway at this point. (The bridge may meet the letter of the Americans with Disabilities Act, but certainly not the spirit.) The rail platform includes roofed benches and several pay telephones. The Tri-Rail ticket booth is a small, portable structure at the foot of the pedestrian bridge. The only toilet in the entire lot is a Porta-potty near the bus platform. A vending machine is located near the Tri-Rail booth, and a few newspaper racks are scattered around the area. No drinking water is available. A wooden "guard" tower, presumably to enhance security in the parking area, instead evokes apprehension.

Unless one is very familiar with the entire Golden Glades interchange, it is impossible to navigate without directional and guidance signs. After Hurricane Andrew, many of these signs were missing. Most have now been replaced, but are non-uniform. Other signs prohibit loitering, alcohol, and all-night parking, threatening arrest and adding to the oppressive atmosphere.

The staffing at the facility consists of a ticket vendor for Tri-Rail and a private company security guard. There is no MDTA representative after the rush hour. Passenger information for Tri-Rail is available from the ticket vendor and schedules. No schedules for Metrobus were in evidence on a recent visit, and a posted route map was two years old.

The area is lighted at night, but somewhat unevenly, with large, dark areas. Landscaping is sparse and shabby.

MODES

As mentioned above, several transportation modes currently operate into and out of the Golden Glades PNR lot. These include SOV auto, car/van pool HOV, local bus, express bus, and Tri-Rail. Other modes operate to and from the lot less regularly: taxi, tour bus, jitney. Several other modes may operate from the lot in the future, including High Speed Rail, Amtrak (which already uses the

rail line but doesn't stop), and a possible loop from the proposed 27th Avenue Metrorail extension. A proposal has been made to integrate intercity bus service, because the Greyhound station at Biscayne Boulevard and NE 163rd Street is being displaced by the widening of that intersection.

Currently, the primary mode transfer at Golden Glades is from SOV to express bus in the morning, and the reverse in the evening. Although the impact of the relatively new Tri-Rail service is not yet exceptional, increasing numbers of travelers are observed changing from auto to Tri-Rail, and Tri-Rail to bus, and the reverse. Tri-Rail has steadily increased its service over its short lifetime as it has proven to be popular with the residents of South Florida. Double-tracking will soon allow shorter headways; this should also increase ridership.

BENEFITS

Two benefits will accrue from a more effective multimodal facility. The first is added convenience to travelers. Although difficult to quantify, a more pleasant, efficient connection between modes will attract new riders to public transit, in addition to increasing the satisfaction of those already using the center. Moving some SOV travelers from roadways to HOV modes will relieve some of the roadway congestion. If and when Metrorail is extended into the center, a large increase in the number of users of the center can be expected due to this increased convenience, further reducing roadway congestion.

The second benefit is the lessening of adverse environmental impacts. Less congestion and fewer automobiles means less engine idling time, decreased fuel consumption, and improved air and water conditions.

ALTERNATIVES

Several alternative station configurations were developed for the Golden Glades which would accommodate the current transportation modes, allow them to interface with each other, and provide for expansion and for future modes. A number of partial conceptual layouts were examined to explore the advantages and disadvantages of different features of alternative multimodal facility designs. Some of these features were then incorporated into three alternative schemes for development of the facility. Each of the three alternatives could be produced in phases; that is, a minimal core structure at first, with expanded facilities, other amenities and joint development added as demand justifies and funding allows. The enclosed sketches, **Figures 1 through 25**, show development of the three schemes in phases. All alternatives have extensive parking, and emphasize safe paths for PNR passengers to proceed to the terminal. They all have locations for passengers to be dropped off by automobiles ("Kiss and Ride" or KNR), local and express bus bays, intercity bus bays (e.g., Greyhound), and Tri-Rail. They all also have the capability to add Metrorail and High Speed Rail service. Amtrak service could be added at the Tri-Rail platforms; baggage and package handling service would need to be provided.

All alternatives emphasize separating vehicular traffic from pedestrians to the maximum extent feasible. All also fully recognize the requirements of the Americans with Disabilities Act.

Conceptual Design Criteria

The following are the major, but by no means all, the criteria used in conceptual designs for the multimodal facility.

- Acceptance of location of rail tracks (after double-tracking)
- Acceptance of location of SR 9 southbound, with alternative of relocating northbound lanes
- Accommodation of existing rail modes
- Provision for future rail modes
- Provision for bus modes: local, express, inter-city, tour
- Provision for Park and Ride, with reservation for future parking garage
- Provision for Kiss and Ride
- Full compliance with Americans with Disabilities Act
- Maximum safety features
- Maximum separation of pedestrians and vehicular modes
- Minimum travel distances within terminal, using vertical travel where appropriate
- Points of sale for all ticket requirements
- Passenger information system
- Passenger waiting areas, enclosed where feasible, sheltered where not
- Public rest rooms, water fountains
- Snack bar (or at least food and drink vending machines)
- Other passenger amenities (for example, news stand, gift shop, dry cleaner, etc.)
- Ability to accommodate the addition of other features, such as child care center, etc.

DIFFERENCES IN SCHEMES

Because they use the same site, and because it is expensive to relocate major roadways, the three schemes had basically the same perimeters, and used the same entrance and exit roads that exist now.

Scheme A (**Figure 3**) establishes a minimal, at-grade terminal building with attached bus bays as close to existing SR 9 as possible. In the terminal area, vehicles occupy the ground level, and pedestrians must ascend one level to change modes. Buses circulate around the terminal in a clockwise direction. KNR/taxi lanes are adjacent to the bus lanes, joining them upstream and downstream of the terminal, but separated at the terminal. Persons being dropped off are blocked from walking across the bus lanes, and must go up one level to move horizontally. Park and ride passengers walk to a collector sidewalk after parking their cars, and also must ascend to the second level. On the second level, travelers can walk to escalators or elevators which take them down again to bus or rail modes. In Scheme A, the terminal and all modes are pressed compactly against the northbound lanes of SR 9, cross-site traffic is minimized, and at-grade parking is maximized. Later phases of Scheme A provide more bus bays, travelling sidewalks on the second level, a parking garage, and mid-rise buildings containing shops and offices.

Scheme B (**Figure 10**) realigns SR 9 northbound parallel to the southbound lanes, and elevates it, on fill except for underpasses. The multimodal terminal, with the bus and KNR lanes, is placed in the now very wide median between the two roadways. The northbound roadway is also the boundary of the park and ride lot, and serves as an effective barrier to keep pedestrians out of the vehicle circulation area. As in Scheme A, all pedestrian circulation to change modes is on the second level. Scheme B effectively provides more at-grade parking, at the cost of relocating SR 9. Later phases of Scheme B provide an expanded terminal building, parking garage, offices and stores.

The vehicle and pedestrian circulation in Scheme C (**Figure 17**) are similar to that in A. The terminal building, however, is a more prominent feature, being closer to the PNR lot, and visible to approaching passengers in all modes except rail. This added prominence comes at a cost of 180 parking spaces. Later phases of Scheme C add a pedestrian arcade containing small shops, an expanded terminal, a parking garage, hotel, and low- and mid-rise office buildings.

In all schemes, train platforms are provided with sufficient area to expand as necessary to support rail service.

IVHS INTERFACE

Metro-Dade and FDOT District Six have embarked on an ambitious program to monitor and control traffic by an Intelligent Vehicle-Highway System (IVHS), an electronic system which will provide information about traffic flows over the entire region. The system is called FLAMINGO (Florida Motorist Information Network for Guidance and Operations). One module of the system will be an Advanced Passenger Transportation System (APTS), which will provide information about public transportation to anyone who is interested in schedules, schedule adherence, routes, fares, etc. This information may be available over touch-tone telephones or cable TV from a person's home; and on display screens at major transportation centers, such as Tri-Rail and Metrorail stations. The APTS will encourage use of HOV in preference to SOV by highlighting roadway traffic congestion, and providing information about the ease of using public transportation systems. It is anticipated that IVHS strategies will incorporate IVHS technologies to increase the efficiency of the roadways serving the Golden Glades Multimodal Facility. It is specifically planned that APTS will be incorporated into the center's design.

EVALUATION OF ALTERNATIVES

A matrix was prepared to contrast the three schemes with each other or with existing conditions, as appropriate. **Table 1** shows various characteristics which are desirable in a multimodal facility, and how the scheme (or feature) satisfies that category, in the estimation of the consultant team.

Copies of the sketches and **Table 1** were given to members of the project steering committee, who evaluated and commented on various features of the schemes from the perspectives of their own agencies. (Steering committee comments and consultant responses to them are contained in Appendix A.) From the analysis of these evaluations, a preferred alternative was developed which retains the best features of the three previous schemes, and avoids most of their flaws. **Figures 26 through 39** depict this preferred alternative.

PREFERRED ALTERNATIVE

The features of Phase One of the preferred alternative are:

- An elevated terminal, air conditioned, with restrooms, ticket booths, a snack bar, and other amenities. (The terminal will initially have eight bus bays, with the capability of adding up to twelve more.)
- Bus and KNR lanes which run under the terminal
- Escalators, elevators and stairways which connect the two levels

- Covered train platforms
- An elevated walkway connecting the terminal and the train platforms
- A covered pedestrian arcade which funnels PNR customers to the terminal, and denies access across bus and KNR lanes.
- Extensive landscaping

TRAFFIC MOVEMENTS

The at-grade, signalized intersection in the center of the PNR lot is a serious impediment to accessing the multimodal center. If the Transit Center/PNR center is to function at high efficiency, through traffic must not be allowed to bisect it. For the time being, measures can be taken which will allow the multimodal center to continue to function, but the center will handle travelers much more slowly than its potential, and would therefore be much less attractive to the SOV driver. Ultimately, through traffic must be removed, either by a grade-separated interchange, or by routing it around the area.

In the meantime, the signalized intersection of US 441 and the PNR access road should be moved to the northwest about 200 feet to allow more direct access to the new terminal by buses and KNR vehicles. (Taxis and jitneys will use the same roadways as KNR.) Buses will have access to the terminal from the intersection at the north, from SR 9 at the south, and from the ramps coming directly from northbound I-95. Buses will circulate around the bus platform (partially under the terminal) in a clockwise direction. Bus egress to all roadways will be from the south side of the terminal; no bus egress to the US 441 intersection will be permitted. Such egress would create unacceptable cross traffic among buses, other PNR traffic, and through traffic on US 441, which includes vehicles changing from SR 826 eastbound to I-95 northbound, a very heavy movement.

Automobile traffic enters the PNR lot at the same points where bus traffic enters, but is immediately separated and directed through the KNR lane or into the parking lot itself. Auto traffic also exits the area at the same points as buses. Crossing of the parking areas will be necessary for some automobile movement, not considered to be significant. Design of the parking lot will not allow high-speed, through traffic, but will require meandering.

COST

Although the Preferred Alternative for the multimodal facility is conceptual at this point, enough assumptions can be made to produce an order-of-magnitude cost estimate, as shown in **Table 2**. Assumptions affecting the estimate include:

- Double tracking of Tri-Rail and construction of new Tri-Rail platforms will occur before construction of the multimodal facility. The estimate in **Table 2** includes connecting to those new platforms and extending them 300 feet to the northeast, as well as installing stairs, an escalator and an elevator to each platform from the elevated walkway.
- Eight covered bus bays are provided, with space available to add more. Four of the bays are sixty-five feet long, capable of accommodating articulated buses.
- Because of the long walkway from the multimodal facility terminal to the train platforms, a price has been estimated for a reversible moving sidewalk in the walkway. If this moving sidewalk is

included, it should be installed at the time of construction of the elevated walkway. If to single-direction moving sidewalks were desired, the price for the sidewalk would be doubled, and the walkway might have to be increased in width.

- If and when Metrorail is extended to the Golden Glades, it will use the median of SR 9, at grade if possible, or elevated above the median if not. When High Speed Rail arrives, it will use the SFRC right-of-way.

IMPLEMENTATION

Phase One can be built in stages so that the current PNR lot can continue to operate during construction. The terminal and new pedestrian overpass will be northeast of the existing Tri-Rail ticket office and walkway. Train platforms will be extended to the northeast to connect to the new walkway, and as far to the northeast as necessary for service to trains. The existing bus bays can likewise continue to operate during construction of the new terminal bus bays and KNR lanes. The parking areas should be improved a section at a time, maintaining access to current operations at all times, especially during transition from the old facilities to the new.

Phase Two would begin when the parking demand reaches about 75% of the capacity of the entire PNR lot, including the areas east of US 441. (Interim measures to enable travelers to get from the eastern lot to the terminal should be effected. A shuttle van or pedestrian bridge are possibilities. Preferred parking for carpools should be initiated.) The parking garage would be built adjacent to the terminal, allowing convenient access to the transit modes, while not obstructing access to them by KNR or buses.

Phase Three and later phases would be initiated as joint development agreements and funding are achieved.

Ultimately, development of the Golden Glades Multimodal Facility depends on answers to several questions, answers which cannot be predicted at this time. The most important consideration, because it influences the size of the facility and joint development at the site, is whether Metrorail will be extended to and through the site. With the inclusion of Metrorail, growth will be rapid and extensive; without it, growth will continue slowly, and full joint development may never occur. Other unknowns are:

- The future costs of motor fuels
- Growth in congestion on South Florida roads
- Change in quality of South Florida air
- Change in freight rail service on the South Florida Rail Corridor (SFRC)
- When High Speed Rail service will come to Florida
- Any change in the catchment area of the Golden Glades PNR, e.g., large conversion of single family areas to higher density dwellings

A very important series of institutional-oriented questions relates to the "ownership" of the multimodal center. Which entity will sponsor succeeding studies (PD&E) and design; which will budget for construction; and which will operate and maintain the center, apart from the transportation modes themselves?

CONCLUSIONS

In summary, the following conclusions have been reached regarding the feasibility of developing a multimodal transportation facility at the Golden Glades Park and Ride Lot:

- **Development of such a facility is quite feasible.** One possible arrangement for a terminal, which accommodates transportation system interfaces and joint development, has been presented. Improvement of the existing facility is needed to carry out even the current operations.
- The major determinant in how fast and to what size a Golden Glades Transit Center could grow is whether or not Metrorail is extended through the center.
- The Golden Glades PNR lot is unique in Dade County in containing so much State-owned, unoccupied land adjacent to and available for transportation purposes.

RECOMMENDATIONS

- **The multimodal center should be highly visible.**

It should be prominent not only from the park and ride area, but also from as many of the surrounding roadways as possible. It should impress on the minds of drivers of single occupancy vehicles that there are ways to get to a destination other than driving alone. Building the center elevated above the transportation modes (SR 9, Tri-Rail) not only reduces interference in moving from one mode to the other, but serves to achieve the goal of visibility.

- **Connections from the multimodal center to the surrounding roadway network should be as easy as possible.**

Major changes to the network to make it more user friendly are probably not realistic as part of this project, but are important to facilitate transfers between the roadways, and should be accomplished as soon as possible.

- **The multimodal center should have a short, descriptive and catchy name, something like "Golden Glades Timesaver Center."**
- **Responsibilities for future actions should be agreed on among the governmental entities involved.**
- **A Project Development and Environment (PD&E) Study should begin as soon as possible to ensure continuing momentum of the Golden Glades Multimodal Facility project.**

For further information contact:

Mr. Jose-Luis Mesa
Metropolitan Dade County
Metropolitan Planning Organization Secretariat
111 NW First Street, Suite 910
Miami, Florida 33128
Phone: (305) 375-4507
Fax: (305) 375-4950

TABLE 1

EVALUATION OF ALTERNATIVES				
EVALUATION CRITERIA		SCHEME		
Topic	Specific Attribute	A	B	C
Patronage	Local Bus	+	+	+
	Express Bus	+	+	+
	Tri-Rail	+	+	+
	Carpool	+	++	++
Ability to accommodate current modes	Local Bus	+	+	+
	Express Bus	O	+	O
	Park and Ride	+	+	+
	Kiss and Ride	+	+	+
	Tri-Rail	+	+	+
	Freight Rail	O	O	O
	Carpool	+	+	+
	Pedestrian/Bicycle	+	+	+
	Tour Bus	+	+	+
	Taxi, Jitney, Shuttles	+	++	++
Ability to accommodate future modes	Intercity Bus	+	+	+
	Amtrak	+	+	+
	Metrorail	+	+	+
	High Speed Rail	+	+	+
Conservation of land area		+	++	+
Ease of phasing construction/improvements		++	-	+

TABLE 1 (Continued)

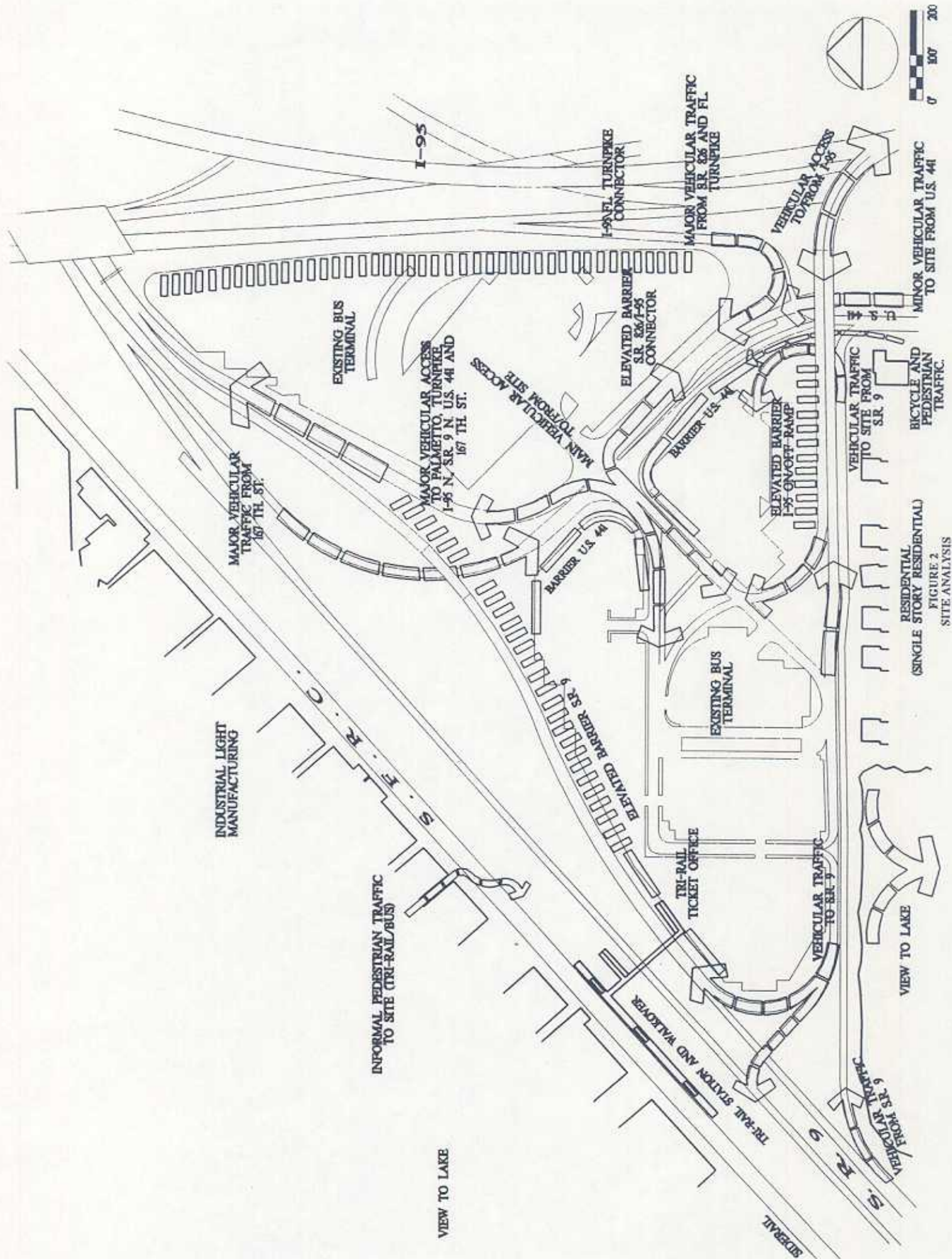
EVALUATION CRITERIA		EVALUATION OF ALTERNATIVES		
Topic	Specific Attribute	A	B	C
Impacts	Community	O	O	O
	Environmental	O	O	O
Design Features	Separation of Pedestrians and Vehicles	+	+	++
	Compliance w/ ADA	+	+	+
	Minimization of Internal Travel Distances	O	+	O
	Acsthetic Amenities	+	++	++
Improved mobility for the transit—dependent		+	+	+
Potential joint development use		O	+	++
Capital Cost	Phase One	\$	\$\$\$	\$\$
	Phase Two	\$\$	\$	\$\$\$
	Phase Three	\$	\$\$\$	\$\$
Roadway Access to Highway Network		-	+	++
Internal Traffic Circulation		++	-	+
+ Better Than Current Situation		-	Worse Than Other Schemes	O Neutral; Same as Current Situation
++ Better Than Other Scheme(s)				

GOLDEN GLADES MULTIMODAL CENTER

MAGNITUDE ESTIMATE

ITEM DESCRIPTION	UNIT PRICE	UNIT	MEASURE	EST COST
CONSTRUCTION COST				
AC Paving (with base course)	\$27	SY	4,000	\$108,000
Bus Platform, Covered	60	SF	4,650	279,000
KNR Platform, Covered	50	SF	3,000	150,000
Train Platform, Covered	100	SF	14,400	1,440,000
Pedestrian Arcade, Covered	60	SF	10,000	600,000
Elevated Terminal	200	SF	2,687	537,400
Enclosed Elevated Walkway	150	SF	3,600	540,000
Stairs, complete	25,000	EA	5	125,000
Escalators, 25' Vertical Rise, complete	160,000	EA	2	320,000
Escalators, 15' Vertical Rise, complete	100,000	EA	3	300,000
Elevators, complete	100,000	EA	5	500,000
Utilities		LS		75,000
Demolition		LS		100,000
Landscaping		LS		100,000
TOTAL CONSTRUCTION COST				\$5,174,400
RIGHT-OF- WAY				0
ENGINEERING AND MANAGEMENT	10%			517,440
SUBTOTAL				5,691,840
CONTINGENCY	25%			1,422,960
TOTAL				\$7,114,800
ESCALATION: 3-4% PER YEAR				
 Moving Sidewalk, 48" w. x 350' long (One direction, reversible)	 1,500	 LF	 300	 450,000

TABLE 2



RESIDENTIAL
(SINGLE STORY RESIDENTIAL)
FIGURE 2
SITE ANALYSIS



SCHEME "A" - PHASE 1

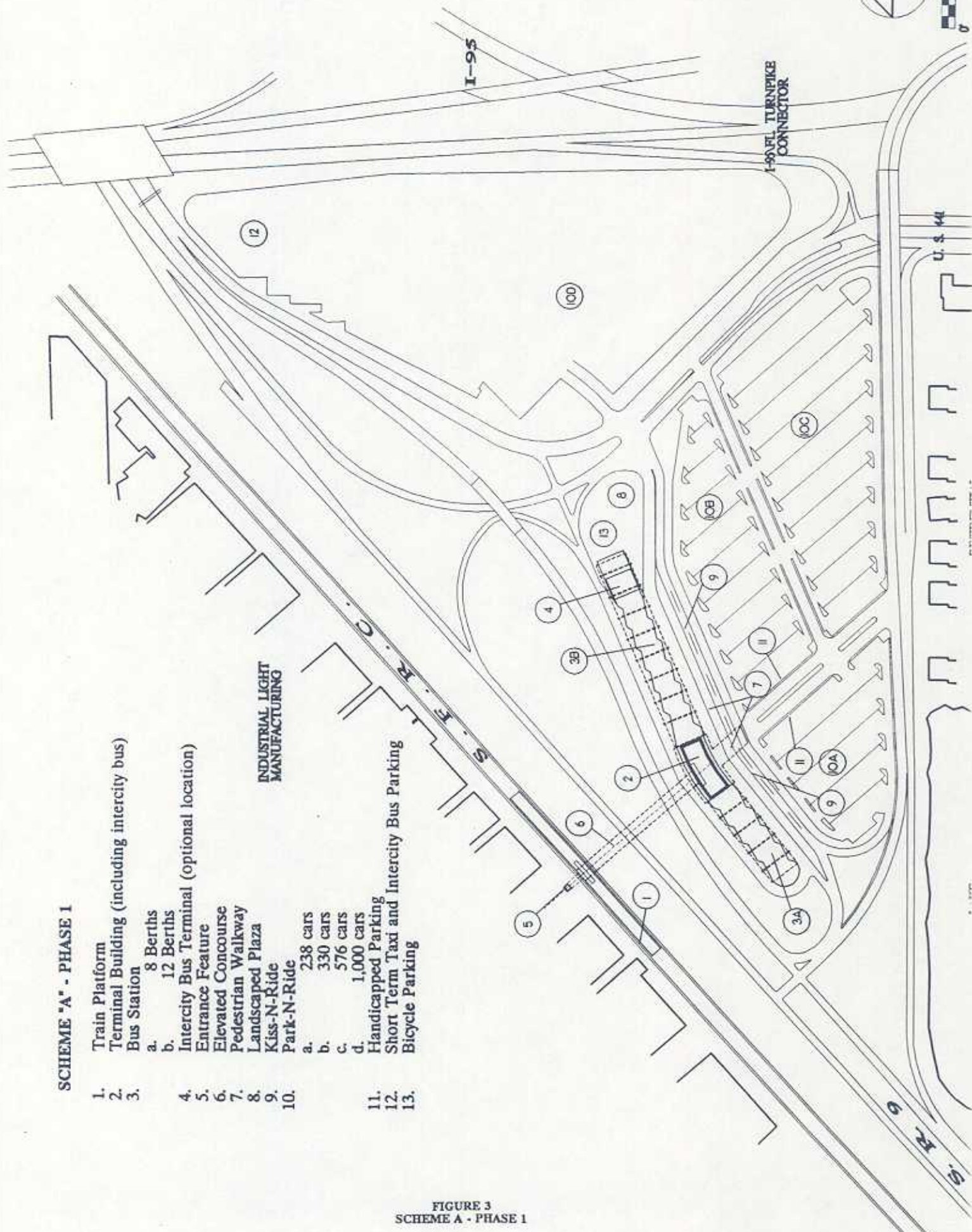
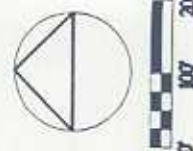
1. Train Platform
2. Terminal Building (including intercity bus)
3. Bus Station
 - a. 8 Berths
 - b. 12 Berths
4. Intercity Bus Terminal (optional location)
5. Entrance Feature
6. Elevated Concourse
7. Pedestrian Walkway
8. Landscaped Plaza
9. Kiss-N-Ride
10. Park-N-Ride
 - a. 238 cars
 - b. 330 cars
 - c. 576 cars
 - d. 1,000 cars
11. Handicapped Parking
12. Short Term Taxi and Intercity Bus Parking
13. Bicycle Parking

INDUSTRIAL LIGHT
MANUFACTURING

I-95

I-95 FL TURNPIKE
CONNECTOR

FIGURE 3
SCHEME A - PHASE 1



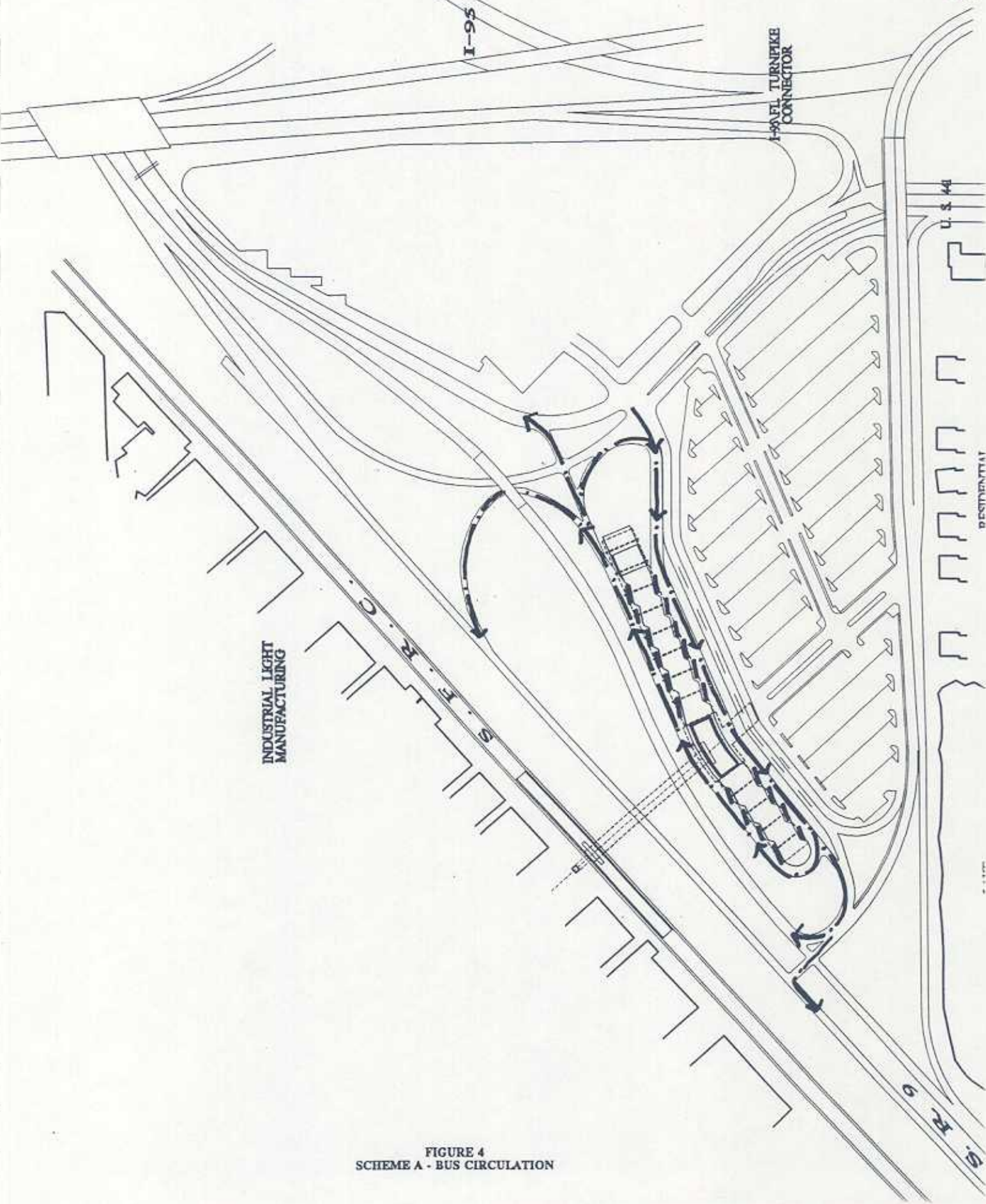
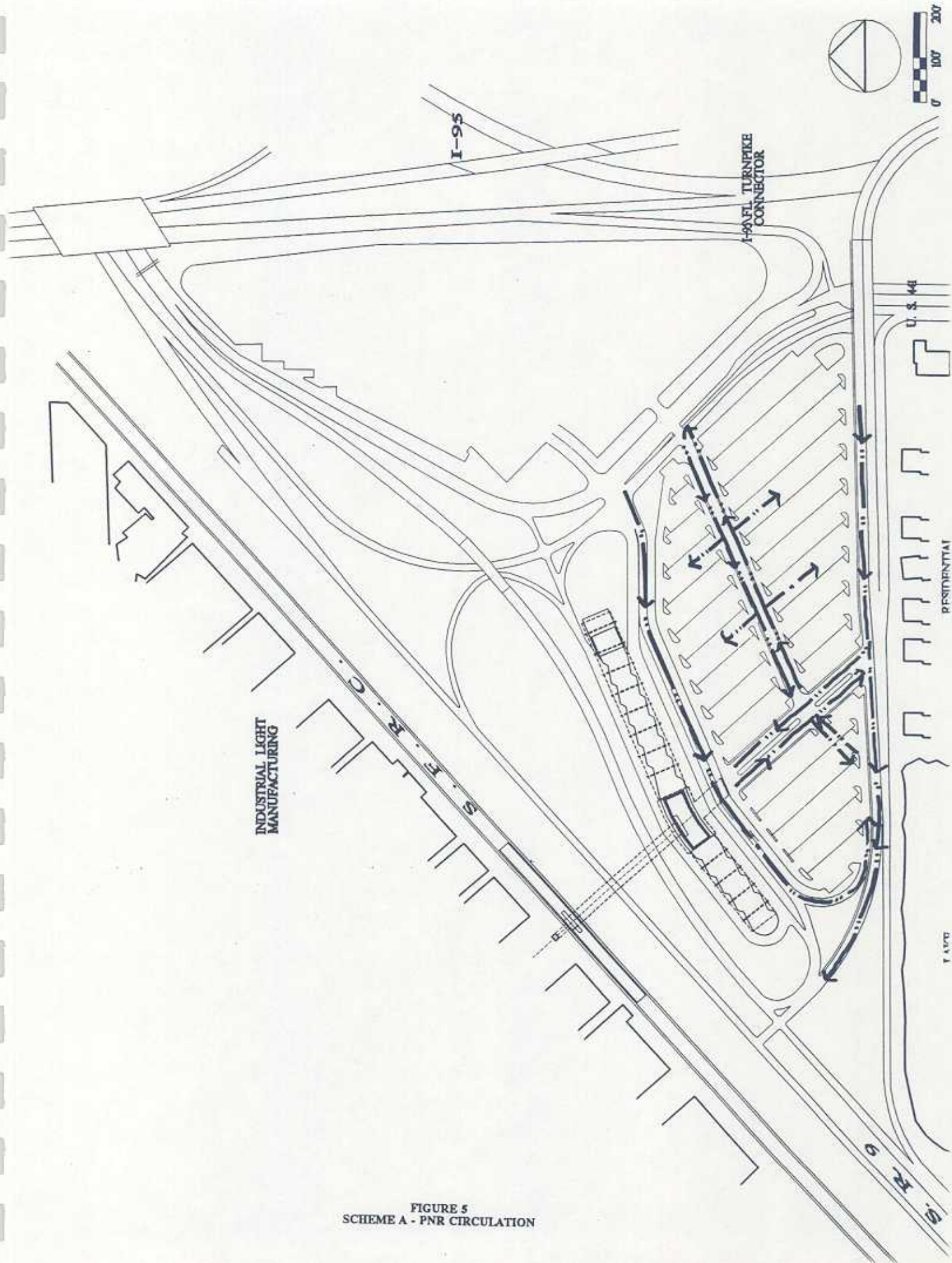


FIGURE 4
SCHEME A - BUS CIRCULATION

FIGURE 5
SCHEME A - PNR CIRCULATION



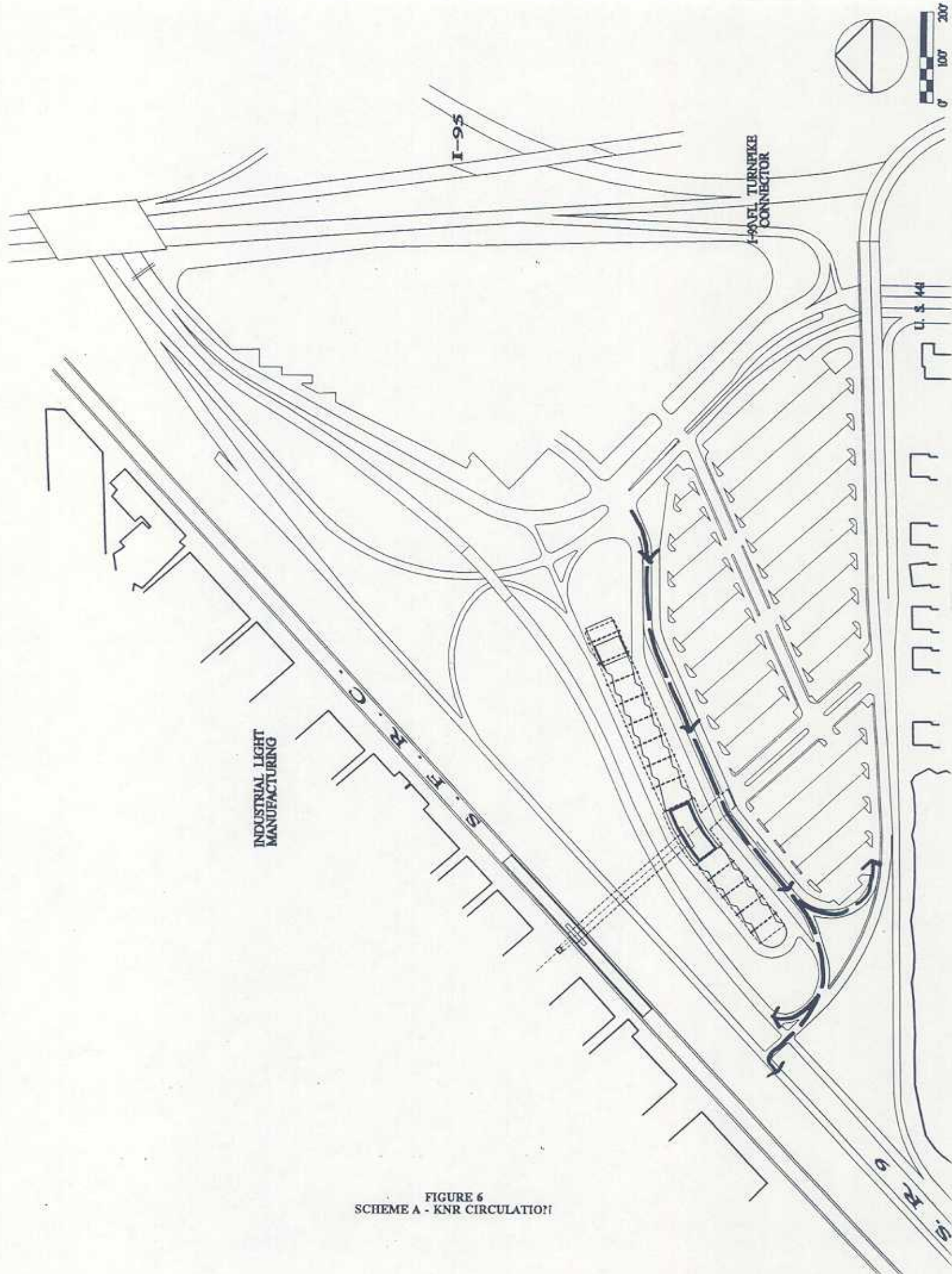


FIGURE 6
SCHEME A - KNR CIRCULATION

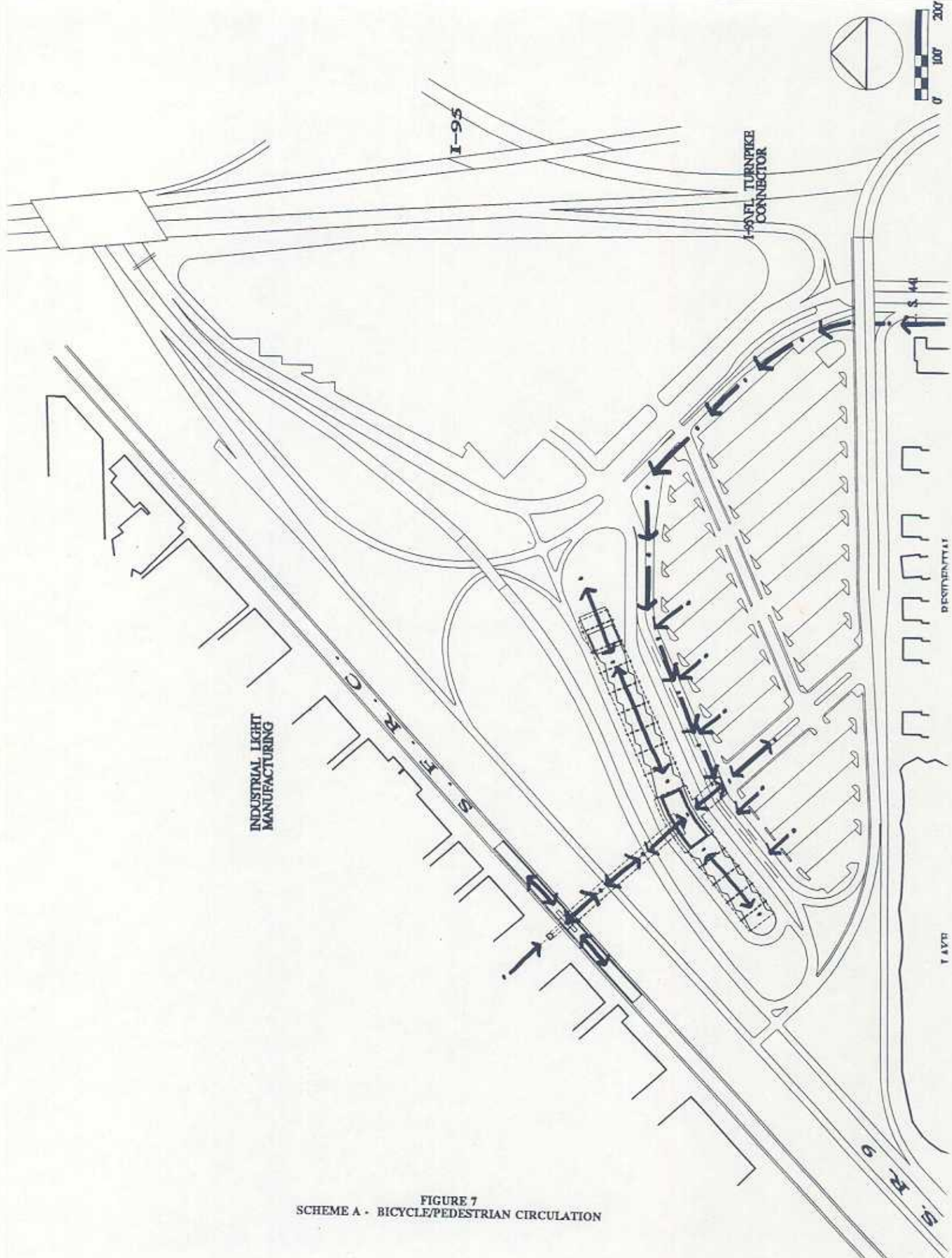


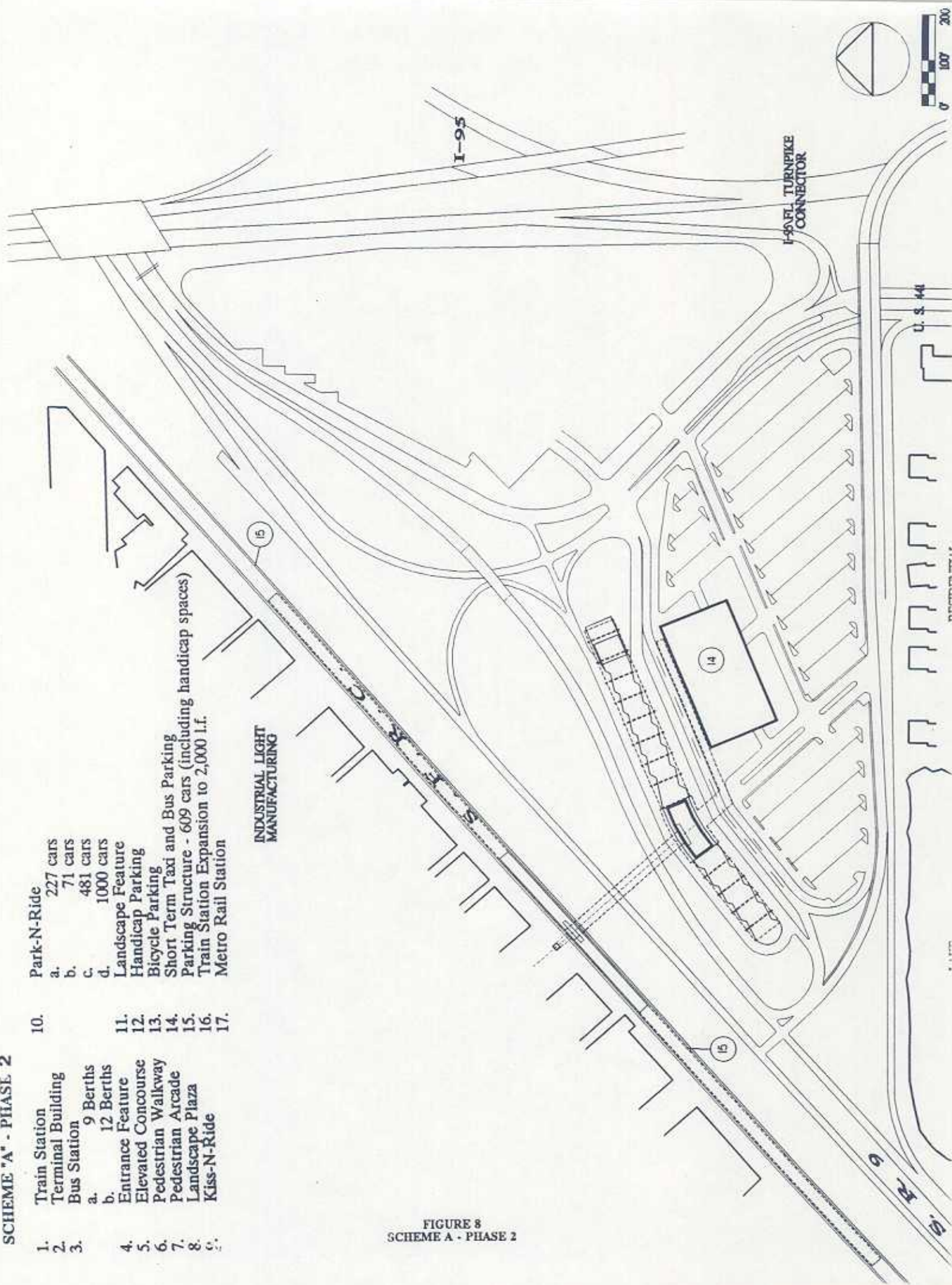
FIGURE 7
 SCHEME A • BICYCLE/PEDESTRIAN CIRCULATION

SCHEME "A" - PHASE 2

1. Train Station
2. Terminal Building
3. Bus Station
 - a. 9 Berths
 - b. 12 Berths
4. Entrance Feature
5. Elevated Concourse
6. Pedestrian Walkway
7. Pedestrian Arcade
8. Landscape Plaza
9. Kiss-N-Ride
10. Park-N-Ride
 - a. 227 cars
 - b. 71 cars
 - c. 481 cars
 - d. 1000 cars
11. Landscape Feature
12. Handicap Parking
13. Bicycle Parking
14. Short Term Taxi and Bus Parking
15. Parking Structure - 609 cars (including handicap spaces)
16. Train Station Expansion to 2,000 l.f.
17. Metro Rail Station

INDUSTRIAL LIGHT
MANUFACTURING

FIGURE 8
SCHEME A - PHASE 2



SCHEME "A" - PHASE 3

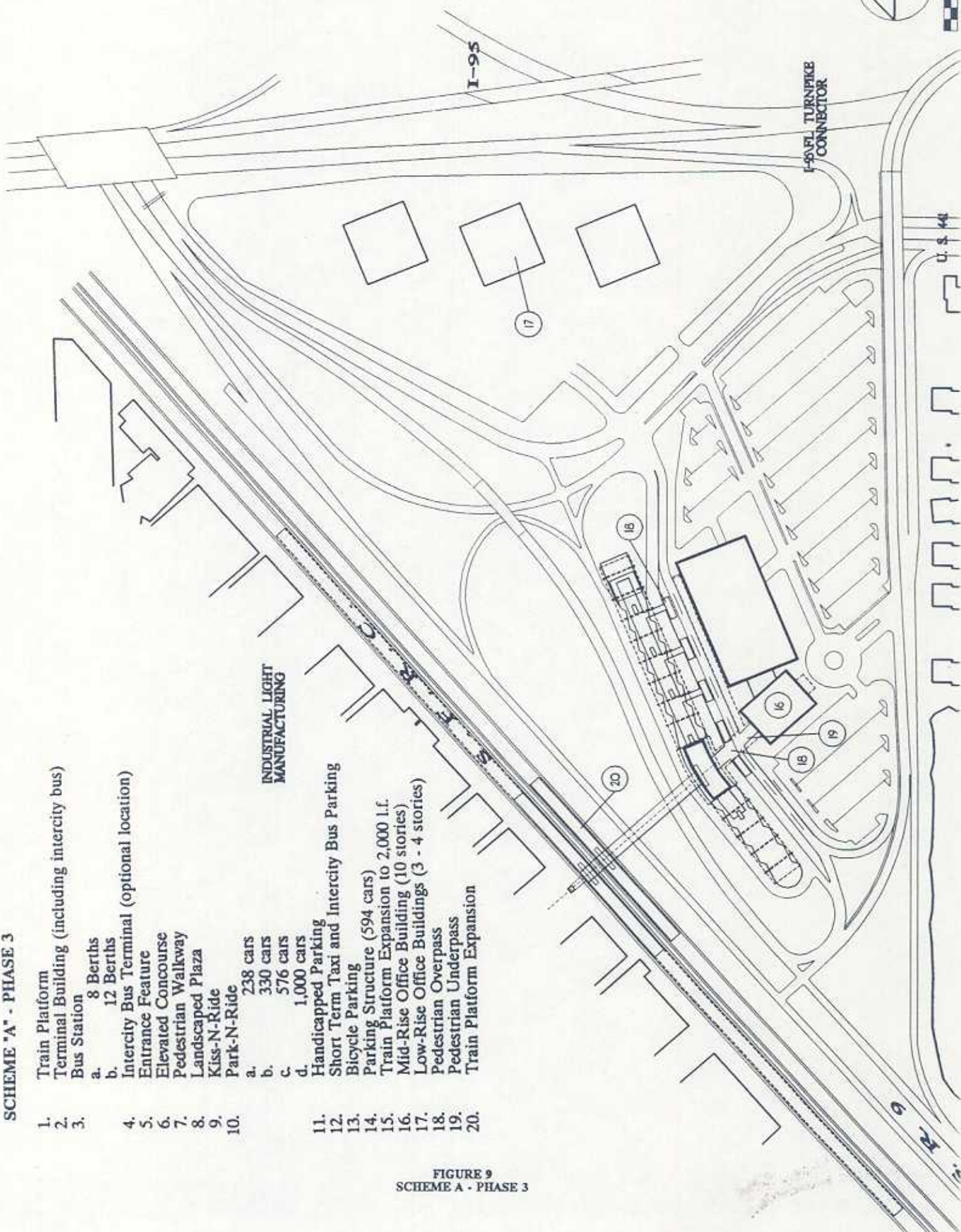
1. Train Platform
2. Terminal Building (including intercity bus)
3. Bus Station
 - a. 8 Berths
 - b. 12 Berths
4. Intercity Bus Terminal (optional location)
5. Entrance Feature
6. Elevated Concourse
7. Pedestrian Walkway
8. Landscaped Plaza
9. Kiss-N-Ride
10. Park-N-Ride
 - a. 238 cars
 - b. 330 cars
 - c. 576 cars
 - d. 1,000 cars
11. Handicapped Parking
12. Short Term Taxi and Intercity Bus Parking
13. Bicycle Parking
14. Parking Structure (594 cars)
15. Train Platform Expansion to 2,000 l.f.
16. Mid-Rise Office Building (10 stories)
17. Low-Rise Office Buildings (3 - 4 stories)
18. Pedestrian Overpass
19. Pedestrian Underpass
20. Train Platform Expansion

INDUSTRIAL LIGHT
MANUFACTURING

I-95

I-95 PL TURNPIKE
CONNECTOR

FIGURE 9
SCHEME A - PHASE 3



SCHEME "B" - PHASE 1

1. Train Platform
2. Terminal Building (including intercity bus)
3. Bus Station
 - a. 10 Berths
 - b. 4 intercity Berths
4. Intercity Bus Terminal (optional location)
5. Elevated Concourse
6. Pedestrian Overpass
7. Pedestrian Underpass
8. Landscaped Plaza
9. Kiss-N-Ride
10. Park-N-Ride
 - a. 851 cars
 - b. 204 cars
 - c. 180 cars
 - d. 228 cars
 - e. 1,000 cars
11. Handicapped Parking
12. Short Term Taxi and Intercity Bus Parking
13. Bicycle Parking
14. Landscaped Feature

INDUSTRIAL LIGHT
MANUFACTURING

I-95

I-95 FL TURNPIKE
CONNECTOR

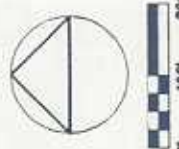
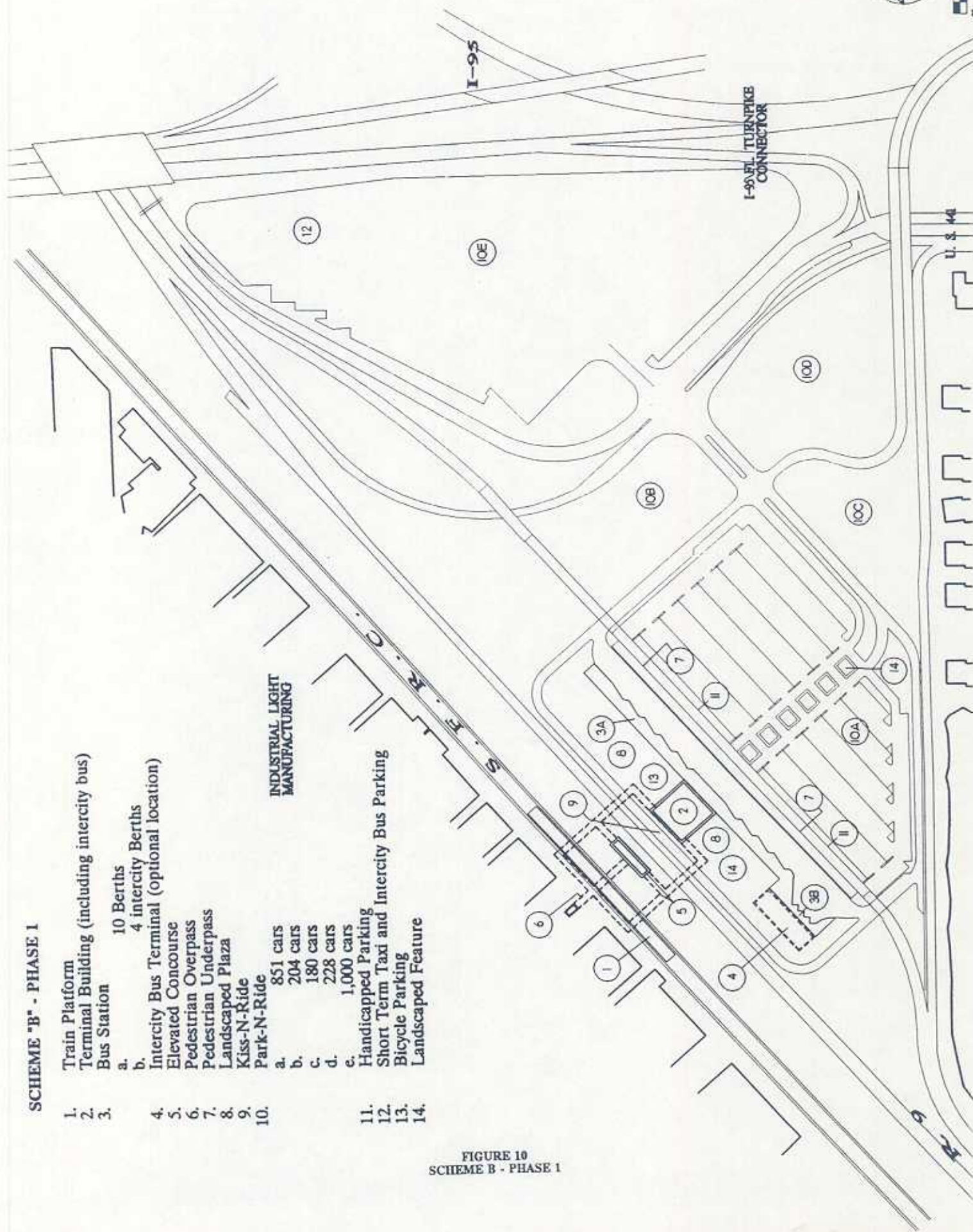


FIGURE 10
SCHEME B - PHASE 1



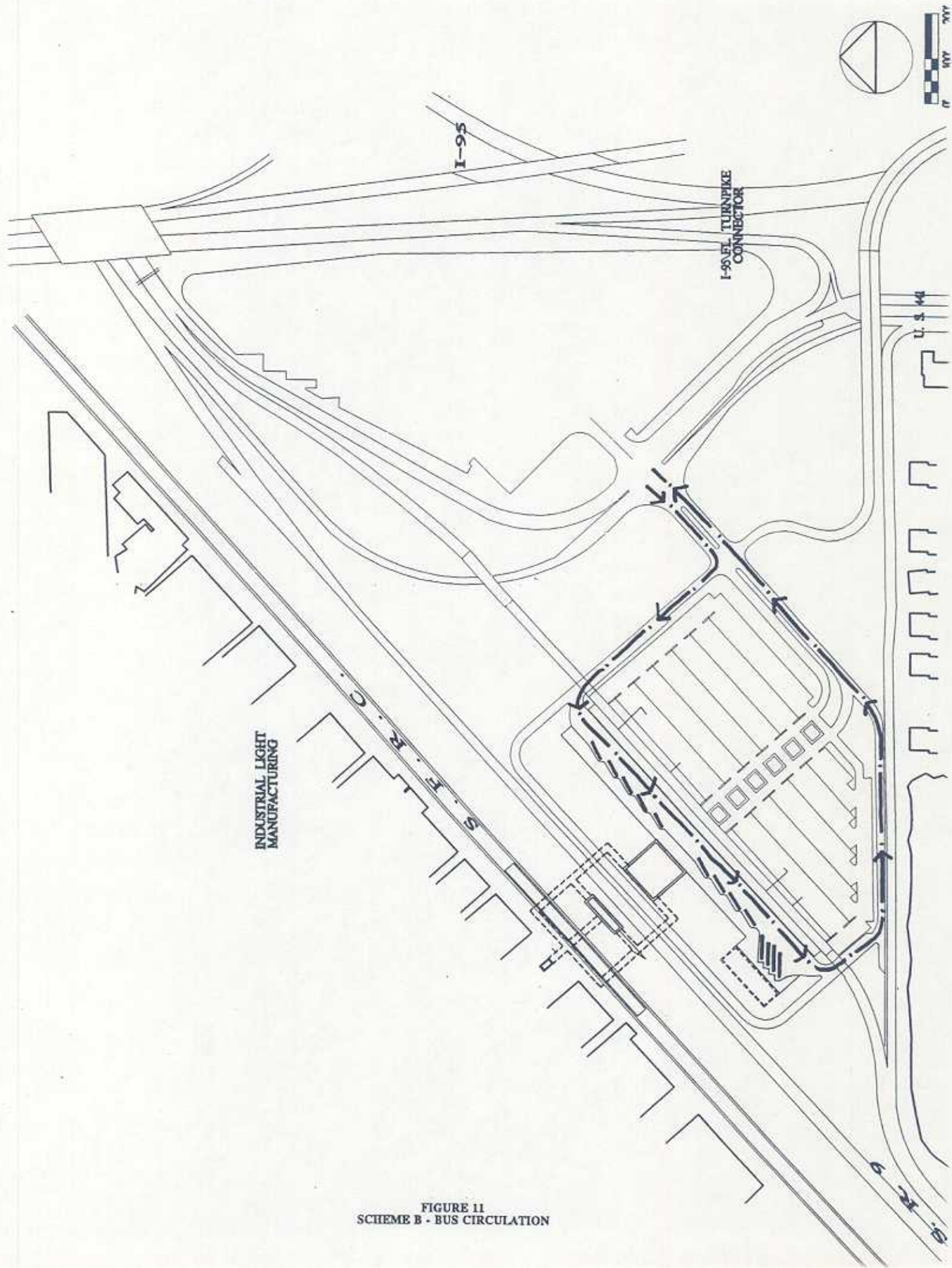


FIGURE 11
SCHEME B - BUS CIRCULATION

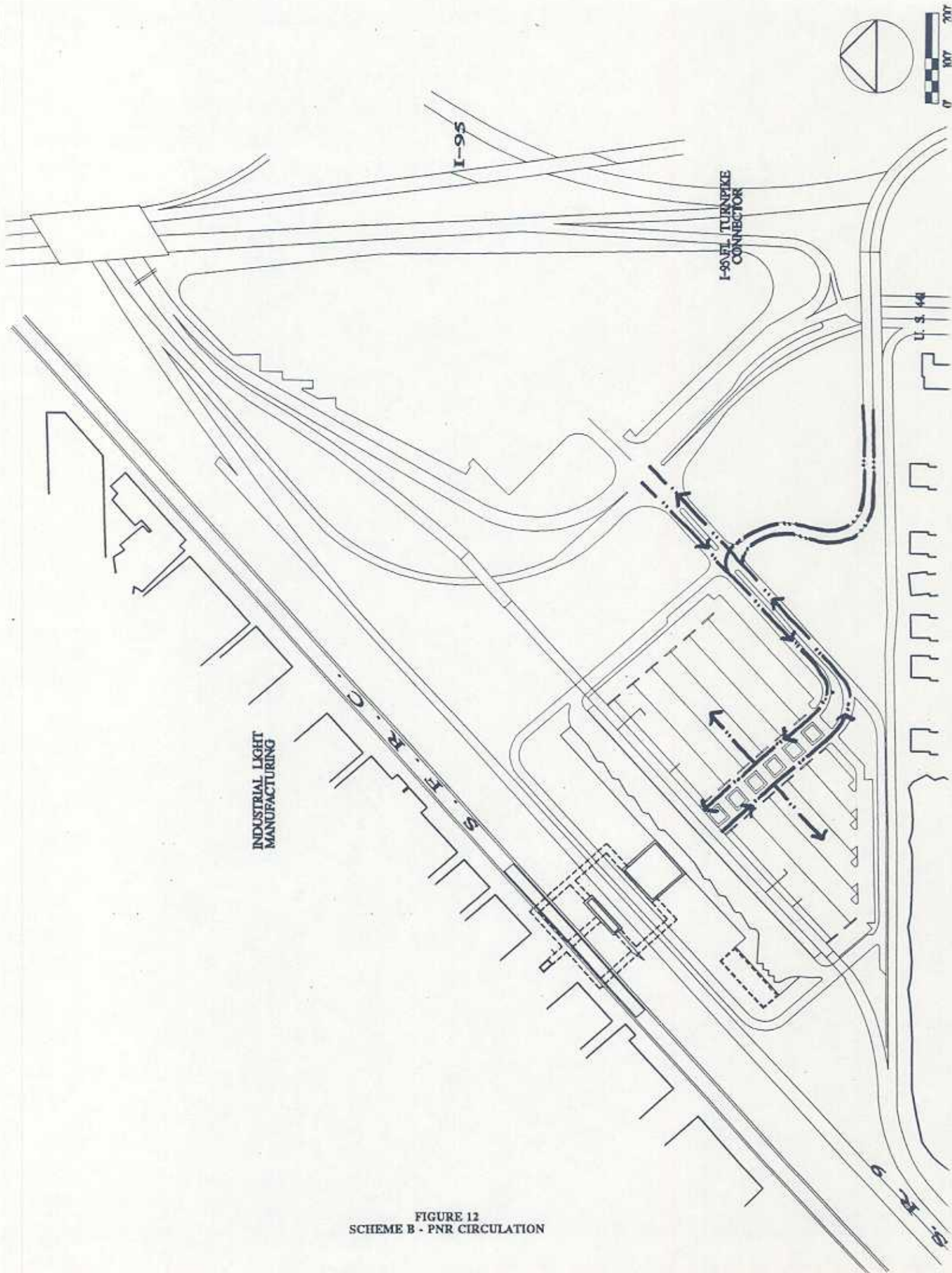
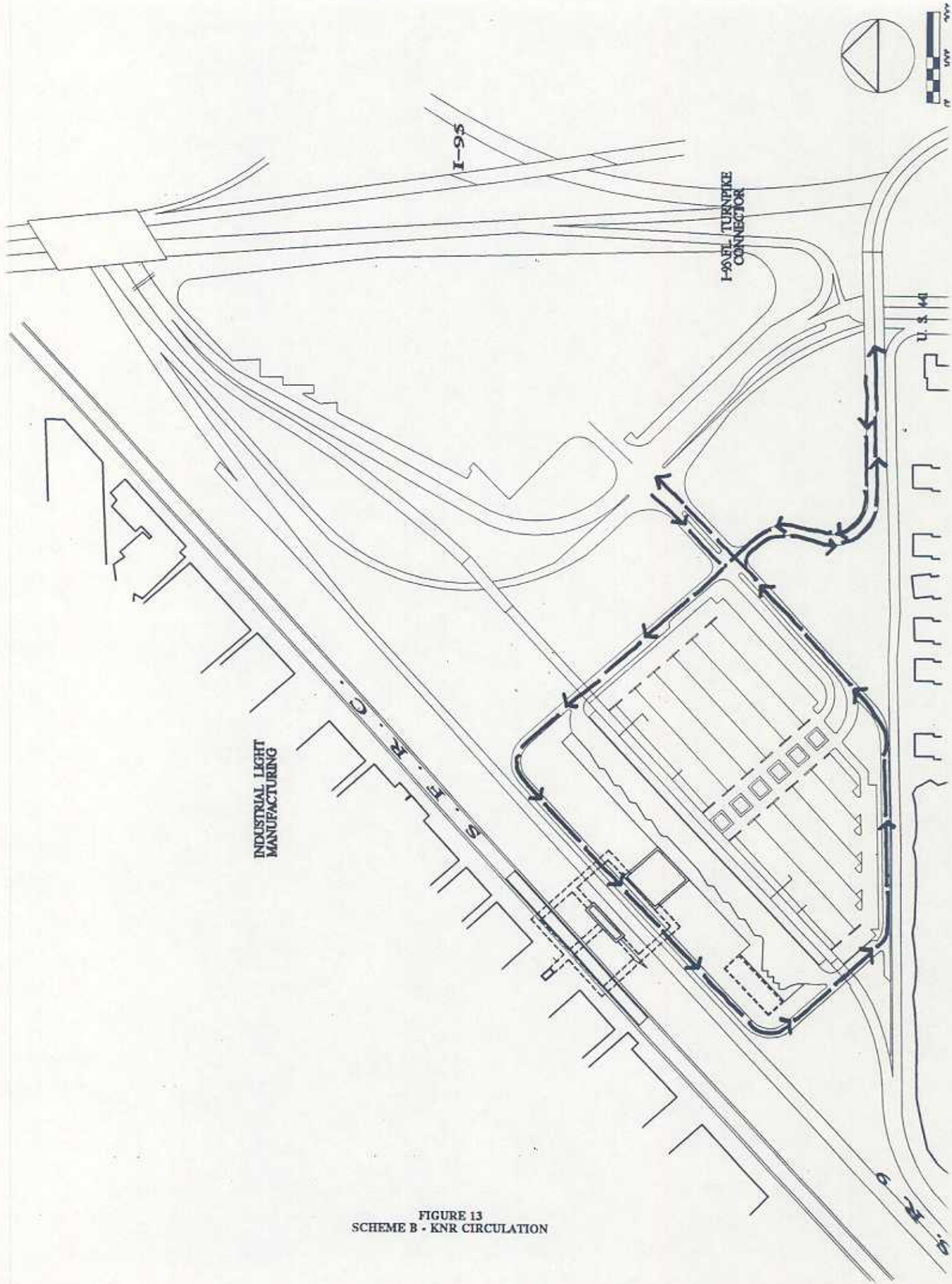


FIGURE 12
SCHEME B - PNR CIRCULATION



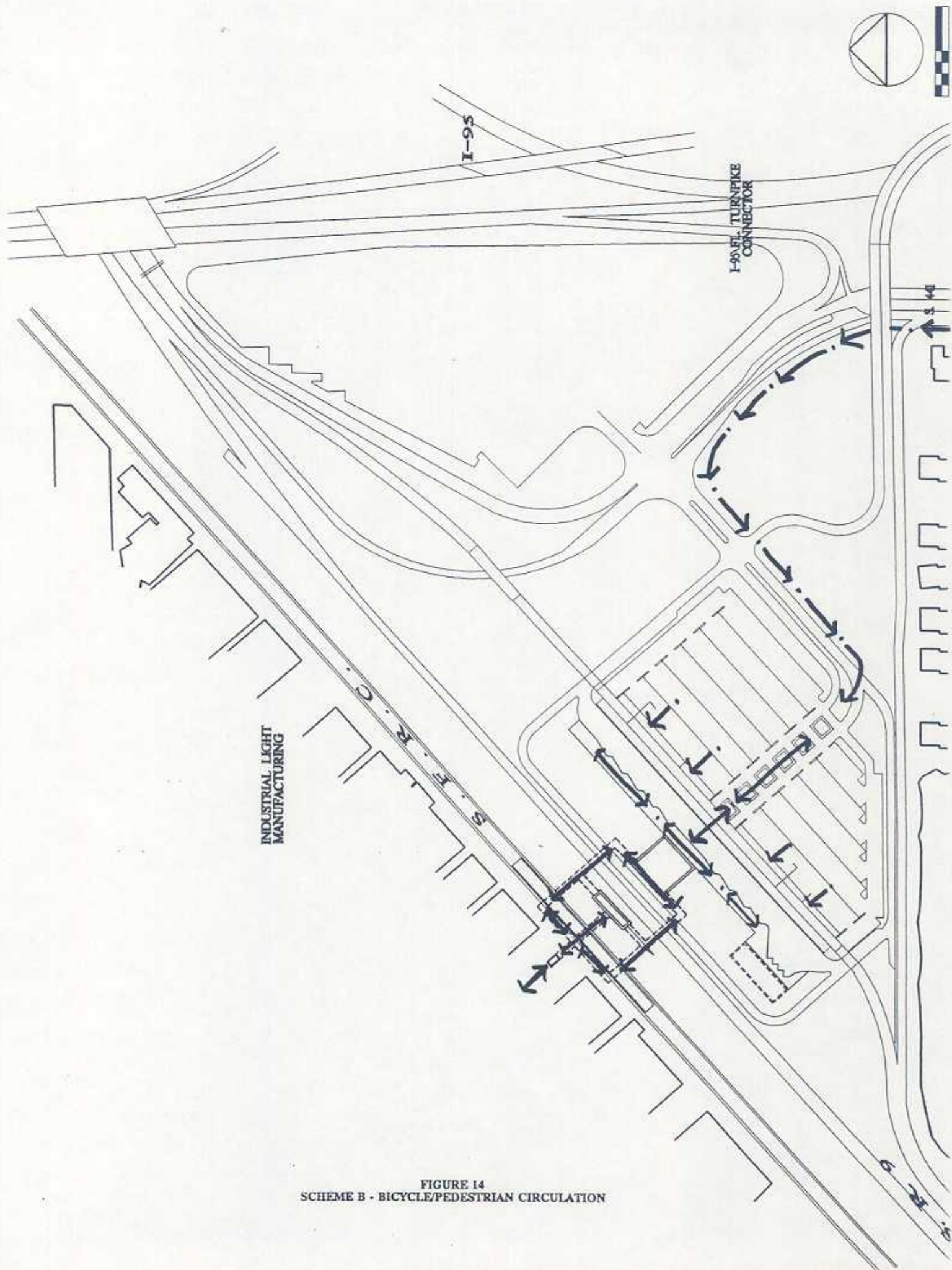


FIGURE 14
SCHEME B - BICYCLE/PEDESTRIAN CIRCULATION

SCHEME "B" - PHASE 2

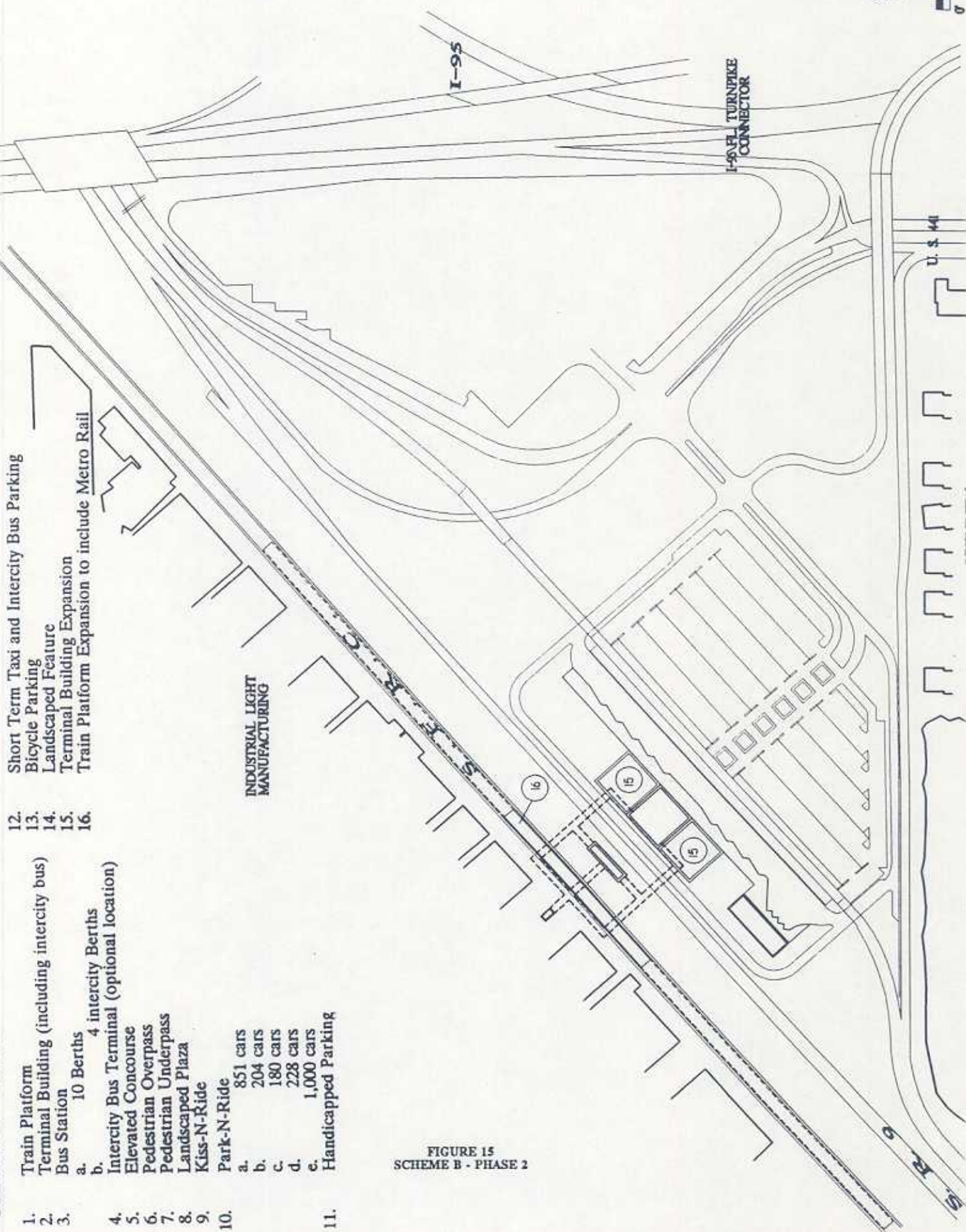


FIGURE 15
SCHEME B - PHASE 2

SCHEME "B" - PHASE 3

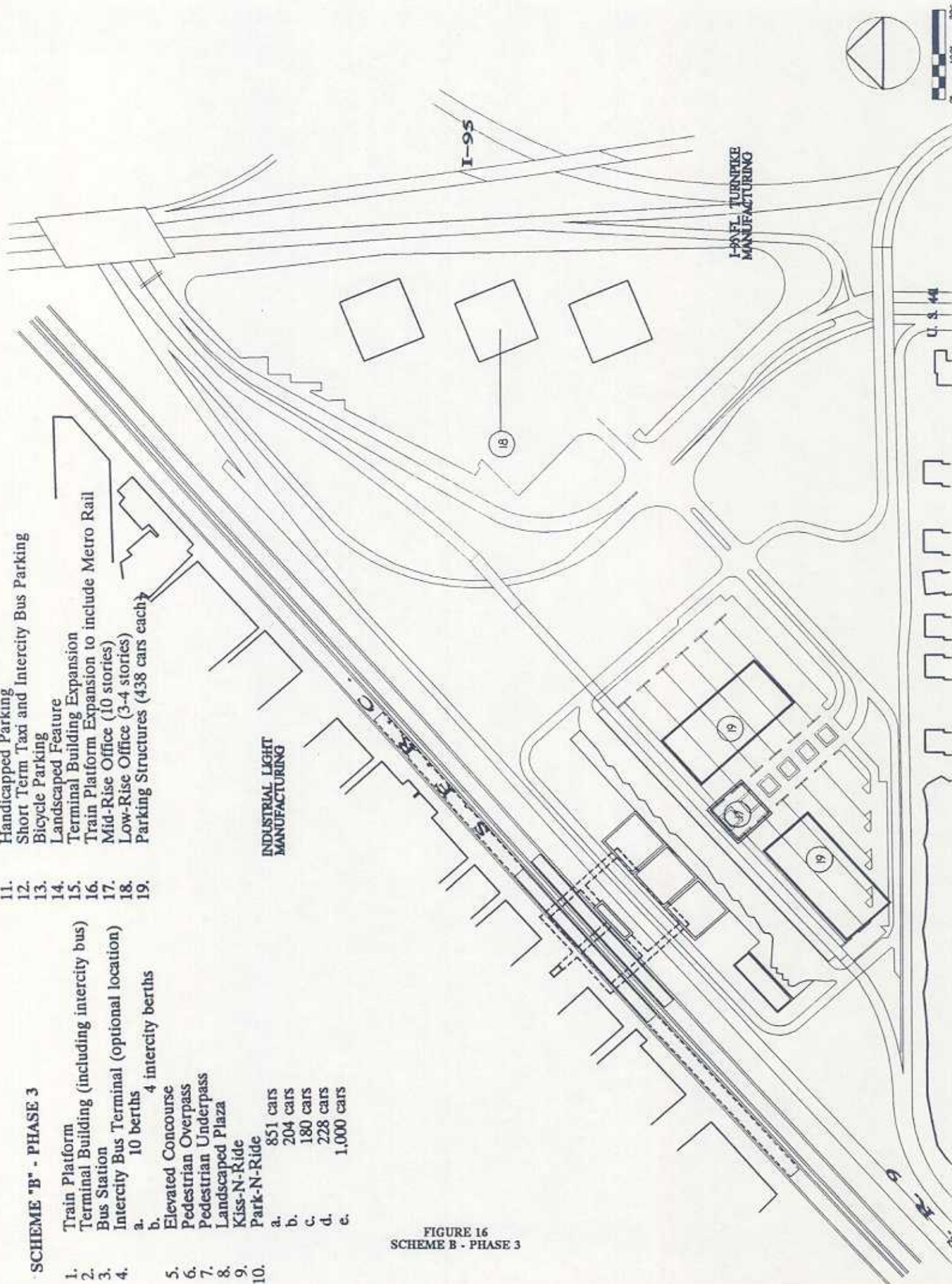
1. Train Platform
2. Terminal Building (including intercity bus)
3. Bus Station
4. Intercity Bus Terminal (optional location)
 - a. 10 berths
 - b. 4 intercity berths
5. Elevated Concourse
6. Pedestrian Overpass
7. Pedestrian Underpass
8. Landscaped Plaza
9. Kiss-N-Ride
10. Park-N-Ride
 - a. 851 cars
 - b. 204 cars
 - c. 180 cars
 - d. 228 cars
 - e. 1,000 cars

11. Handicapped Parking
12. Short Term Taxi and Intercity Bus Parking
13. Bicycle Parking
14. Landscaped Feature
15. Terminal Building Expansion
16. Train Platform Expansion to include Metro Rail
17. Mid-Rise Office (10 stories)
18. Low-Rise Office (3-4 stories)
19. Parking Structures (438 cars each)

INDUSTRIAL LIGHT
MANUFACTURING

I-95
I-95 FL TURNPIKE
MANUFACTURING

FIGURE 16
SCHEME B - PHASE 3



SCHEME "C" - PHASE 1

1. Train Platform
2. Terminal Building (including intercity bus)
3. Bus Station
 - a. 13 berths
 - b. 5 intercity bus and jitney berth
4. Intercity Bus Terminal (optional location)
5. Elevated Concourse
6. Pedestrian Walkway
7. Landscaped Plaza
8. Kiss-N-Ride
9. Park-N-Ride
 - a. 117 cars
 - b. 273 cars
 - c. 573 cars
 - d. 1,000 cars
10. Handicapped Parking
11. Short-Term Taxi and Intercity Bus Parking
12. Bicycle Parking
13. Landscaped Feature
14. Entrance Feature

INDUSTRIAL LIGHT
MANUFACTURING

1 AKP

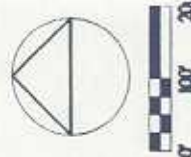
RESIDENTIAL

U. S. 44

I-95 FL. TURNPIKE
CONNECTOR

I-95

FIGURE 17
SCHEME C - PHASE 1



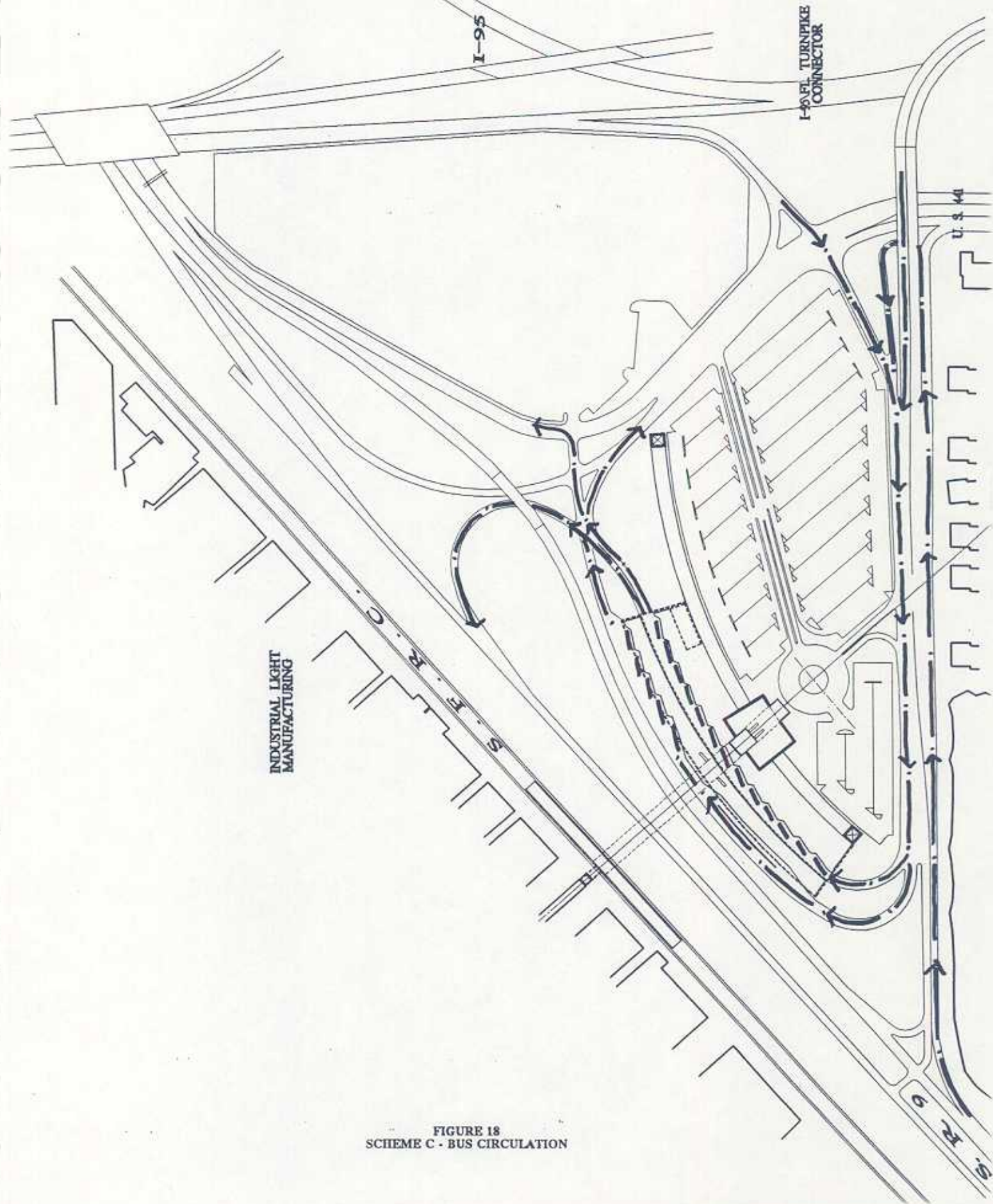


FIGURE 18
SCHEME C - BUS CIRCULATION



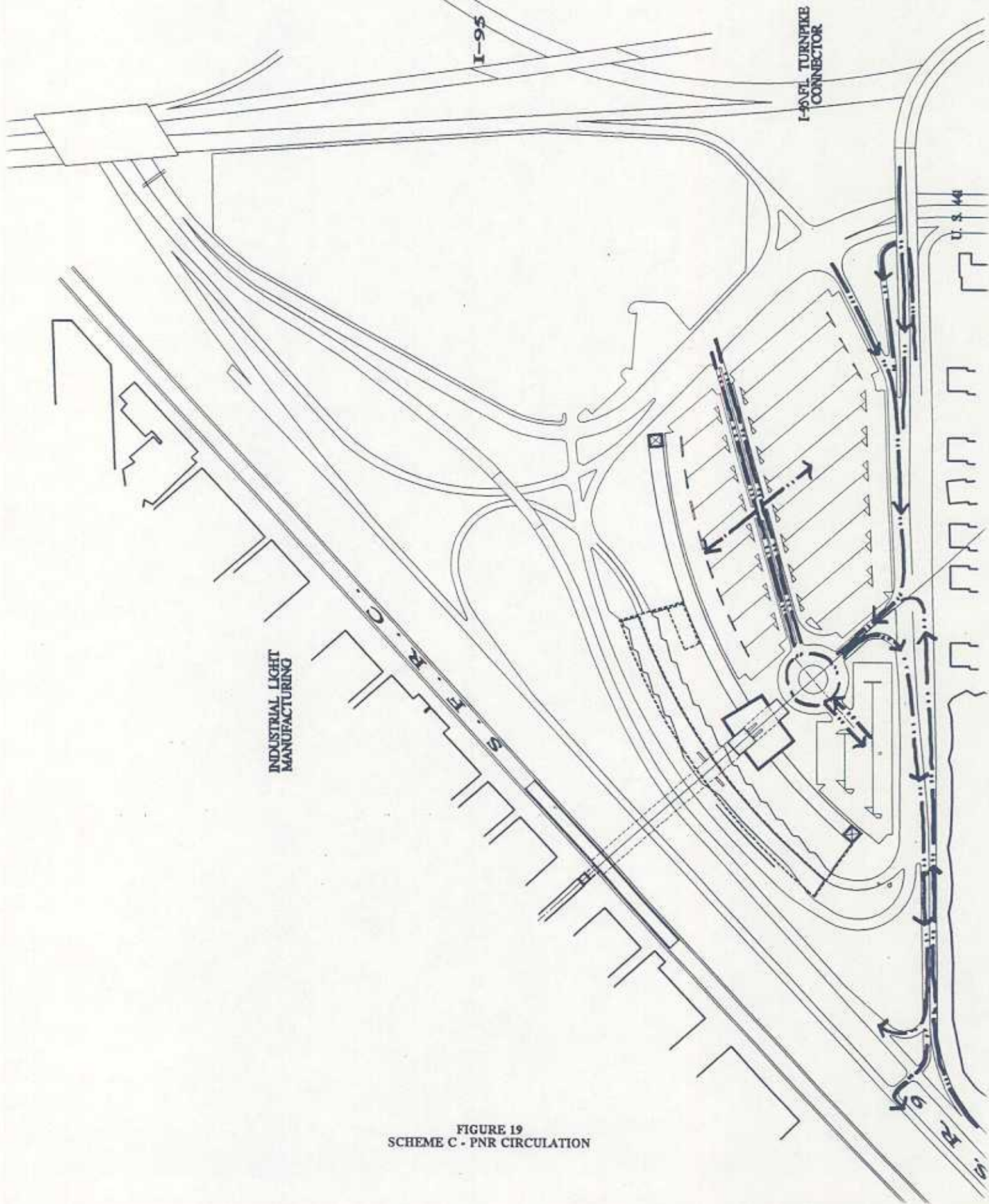


FIGURE 19
SCHEME C - PNR CIRCULATION

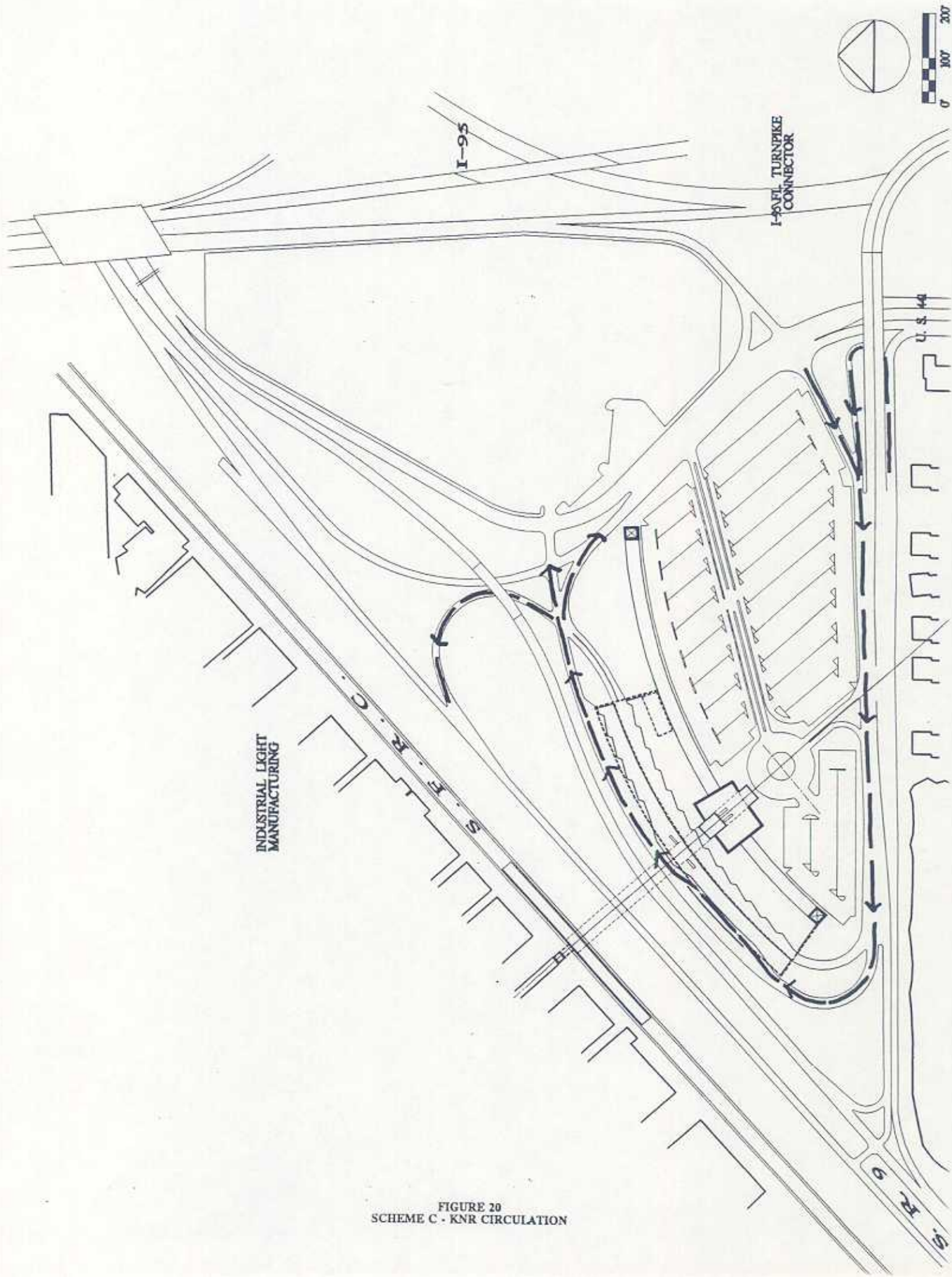


FIGURE 20
SCHEME C - KNR CIRCULATION

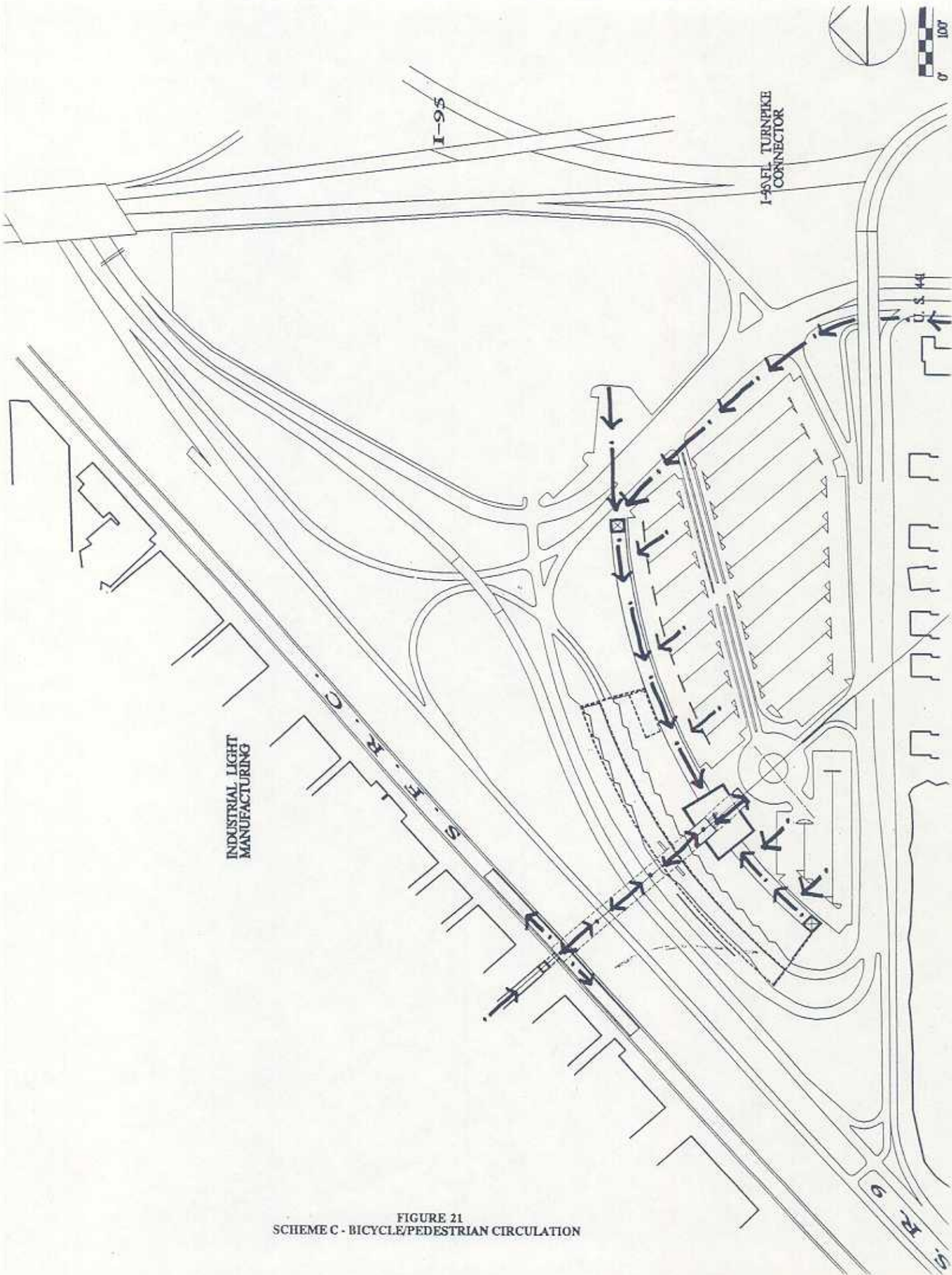


FIGURE 21
SCHEME C - BICYCLE/PEDESTRIAN CIRCULATION

SCHEME "C" - PHASE 2

1. Train Platform
2. Terminal Building (including intercity bus)
3. Bus Station
 - a. 13 berths
 - b. 5 intercity bus and jitney berth
4. Intercity Bus Terminal (optional location)
5. Elevated Concourse
6. Pedestrian Walkway
7. Landscaped Plaza
8. Kiss-N-Ride
9. Park-N-Ride
 - a. 117 cars
 - b. 154 cars
 - c. 368 cars
 - d. 1,000 cars
10. Industrial Light Manufacturing
11. Handicapped Parking
12. Short-Term Taxi and Intercity Bus Parking
13. Bicycle Parking
14. Landscaped Feature
15. Entrance Feature
16. Train Platform Expansion to 2,000 l.f.
17. Parking Structure (191 cars, park -n- ride, 763 cars)
18. Pedestrian Arcade

FIGURE 22
SCHEME C - PHASE 2

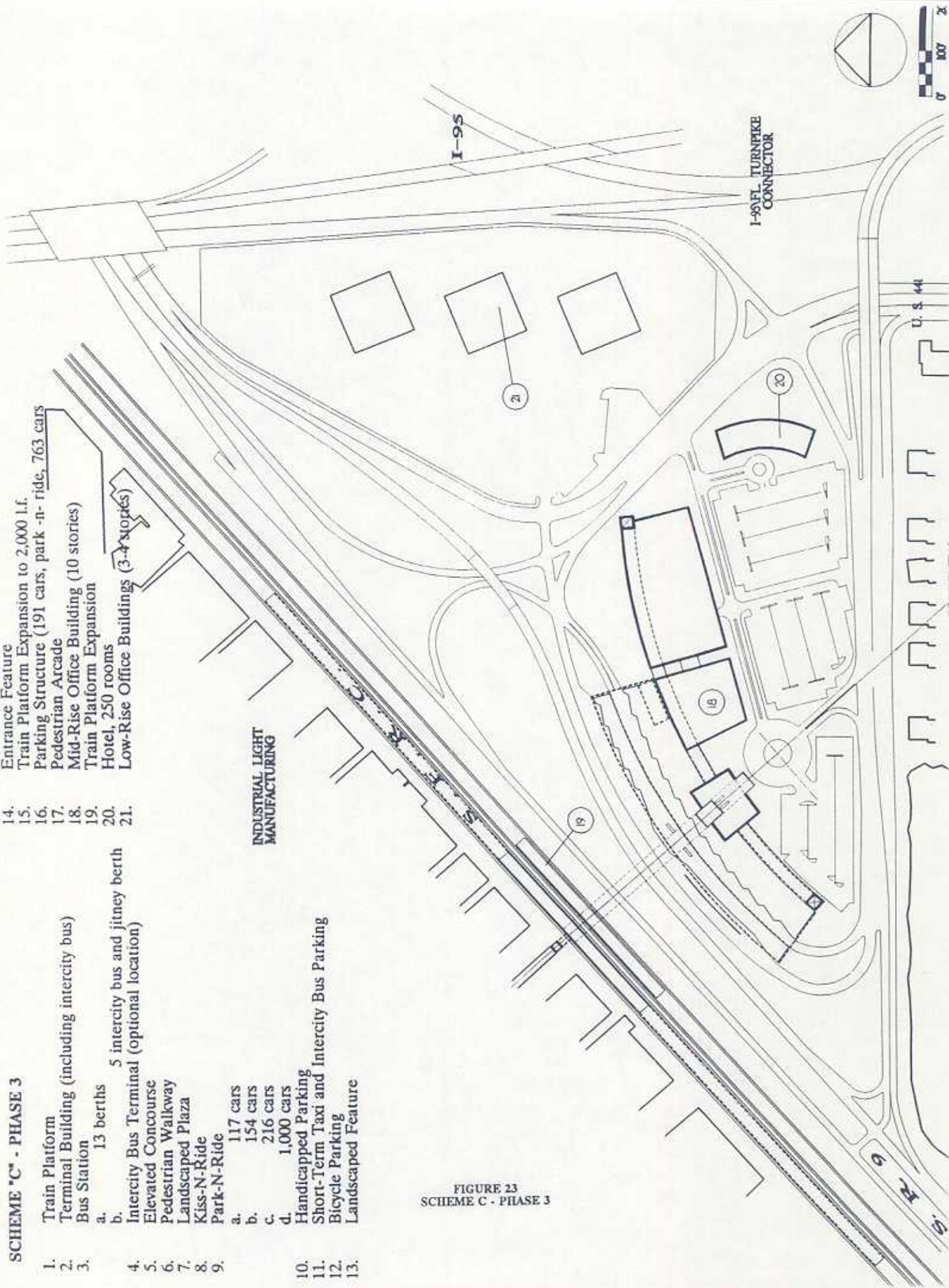


SCHEME "C" - PHASE 3

1. Train Platform
2. Terminal Building (including intercity bus)
3. Bus Station
 - a. 13 berths
 - b. 5 intercity bus and jitney berth
4. Intercity Bus Terminal (optional location)
5. Elevated Concourse
6. Pedestrian Walkway
7. Landscaped Plaza
8. Kiss-N-Ride
9. Park-N-Ride
 - a. 117 cars
 - b. 154 cars
 - c. 216 cars
 - d. 1,000 cars
10. Handicapped Parking
11. Short-Term Taxi and Intercity Bus Parking
12. Bicycle Parking
13. Landscaped Feature
14. Entrance Feature
15. Train Platform Expansion to 2,000 l.f.
16. Parking Structure (191 cars, park -n- ride, 763 cars)
17. Pedestrian Arcade
18. Mid-Rise Office Building (10 stories)
19. Train Platform Expansion
20. Hotel, 250 rooms
21. Low-Rise Office Buildings (3-4 stories)

INDUSTRIAL LIGHT
MANUFACTURING

FIGURE 23
SCHEME C - PHASE 3



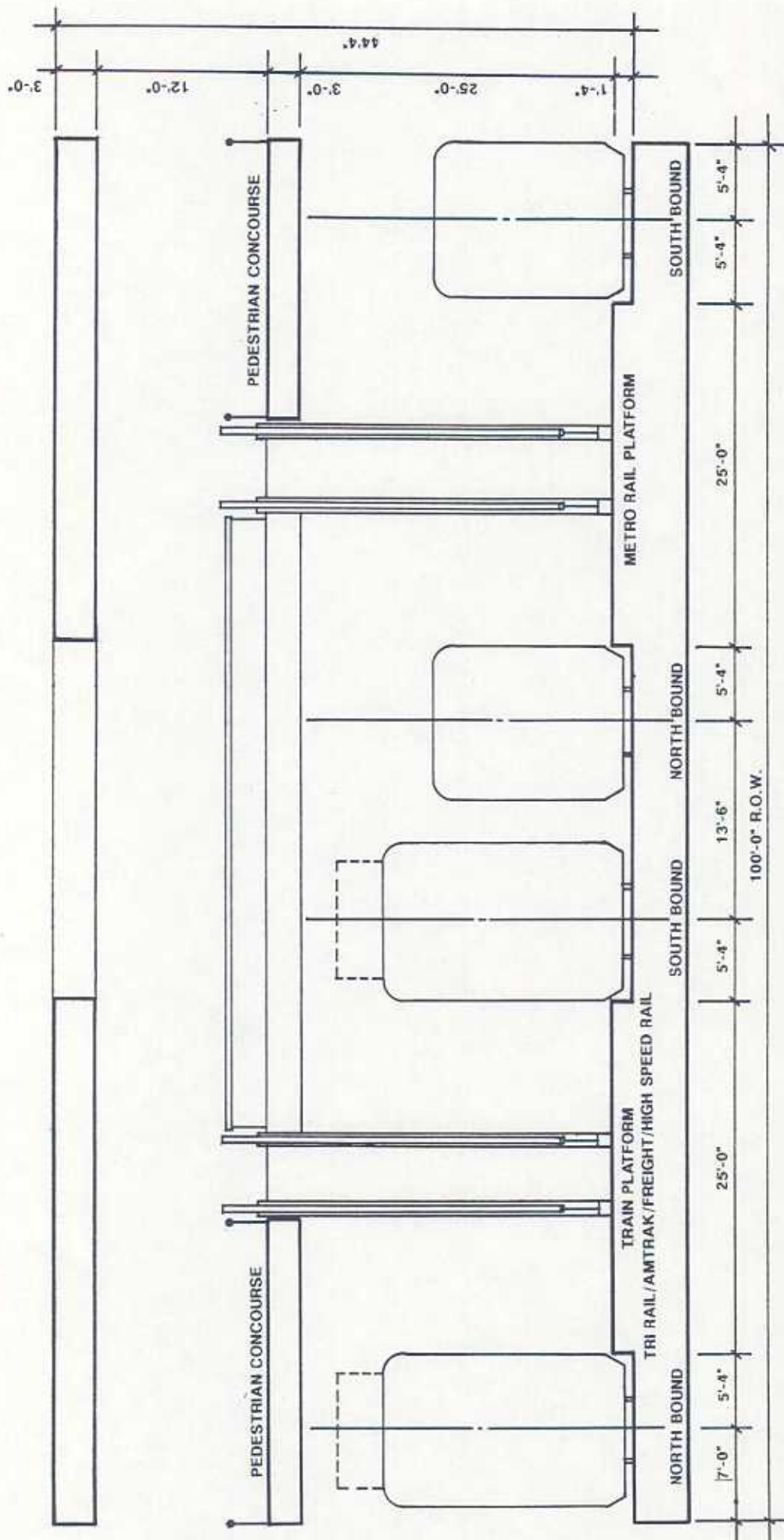


FIGURE 24
SINGLE-LEVEL RAIL SCHEMATIC

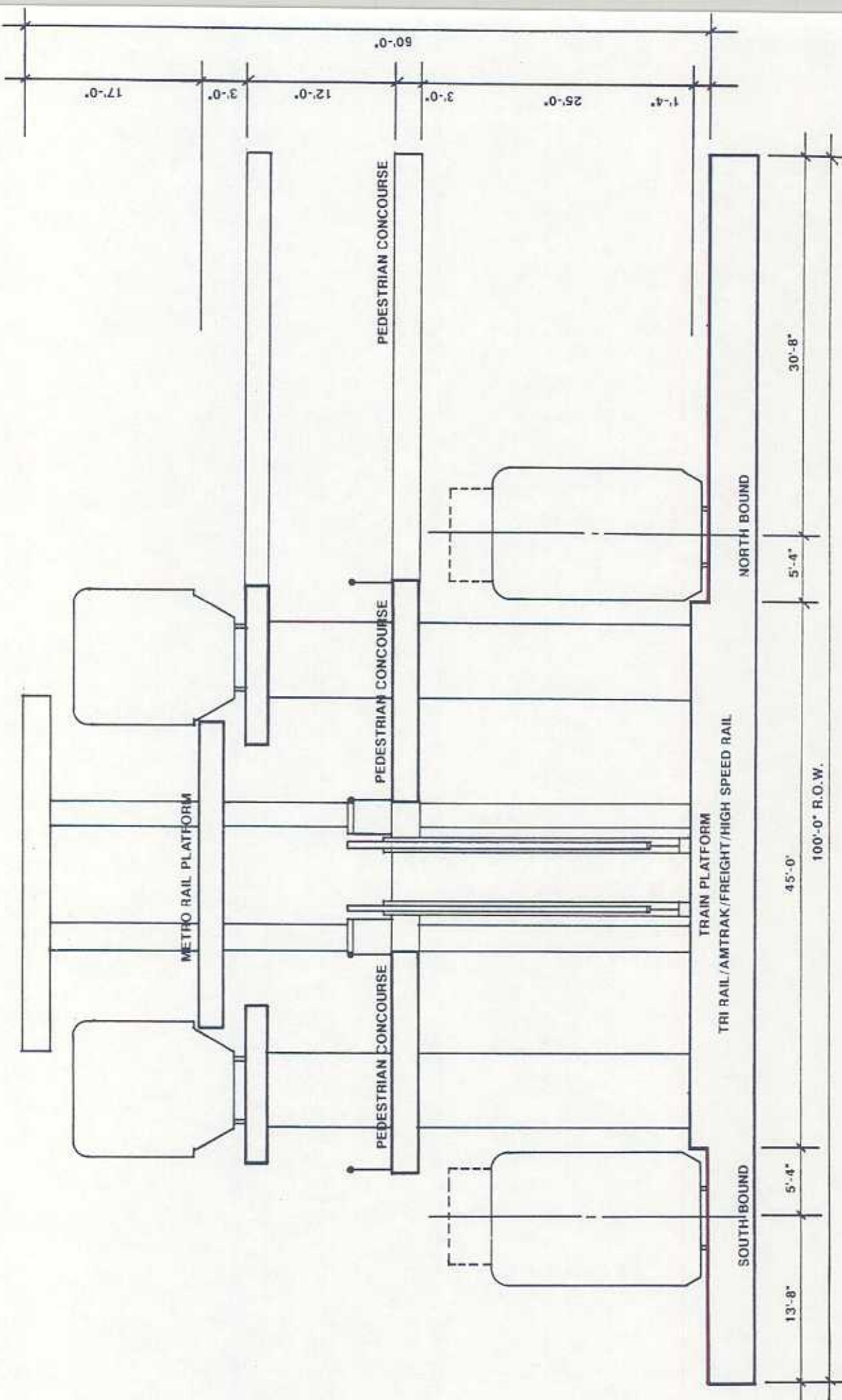


FIGURE 25
MULTI-LEVEL RAIL SCHEMATIC

PREFERRED ALTERNATIVE - PHASE I

1. Train Station
2. Terminal Building
3. Bus Station
 - a. 9 Berths
 - b. 12 Berths
4. Entrance Feature
5. Elevated Concourse
6. Pedestrian Walkway
7. Pedestrian Arcade
8. Landscape Plaza
9. Kiss-N-Ride
10. Park-N-Ride
 - a. 227 cars
 - b. 71 cars
 - c. 481 cars
 - d. 1000 cars
11. Landscape Feature
12. Handicap Parking
13. Bicycle Parking
14. Short Term Taxi and Bus Parking

INDUSTRIAL LIGHT
MANUFACTURING

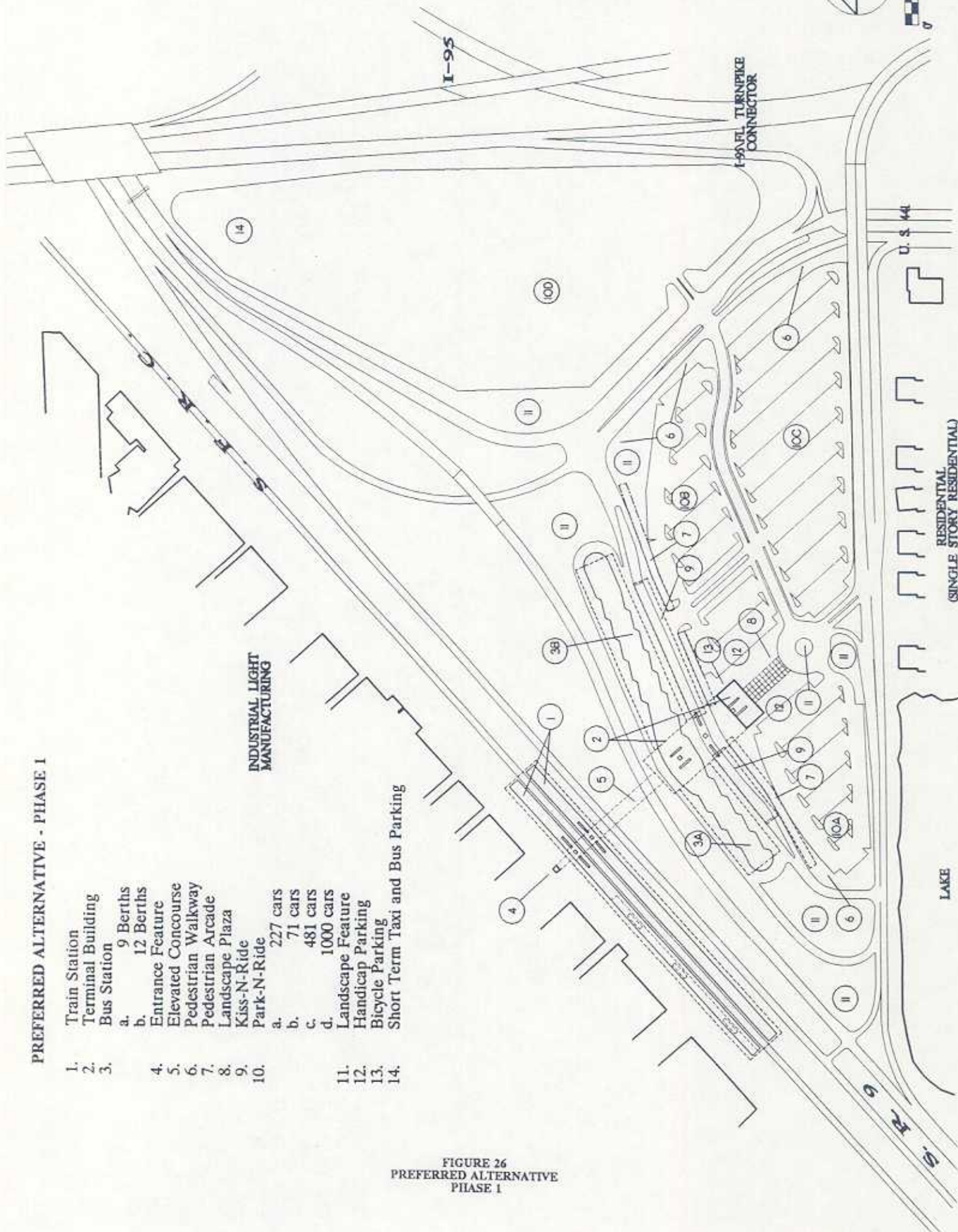


FIGURE 26
PREFERRED ALTERNATIVE
PHASE I

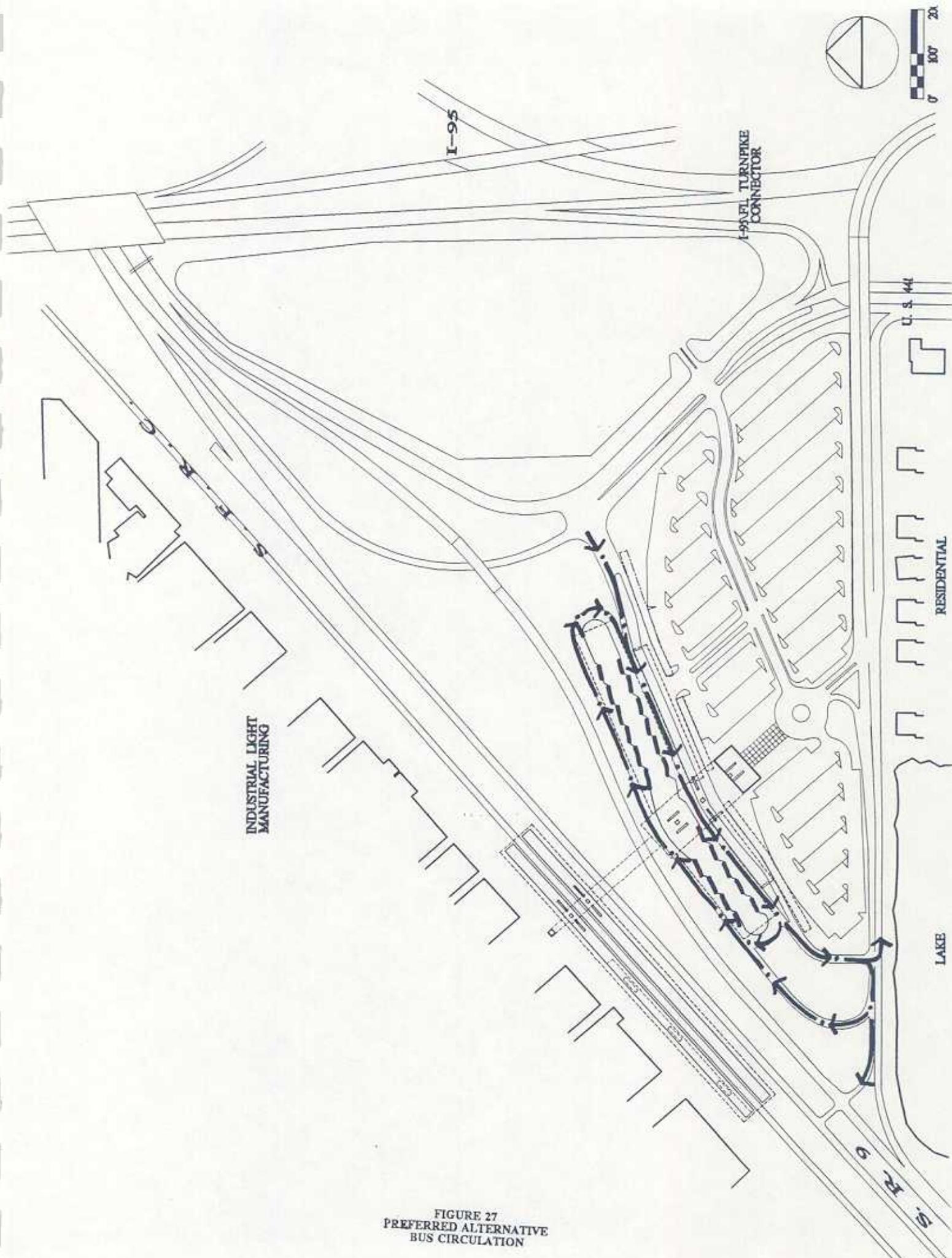


FIGURE 27
PREFERRED ALTERNATIVE
BUS CIRCULATION

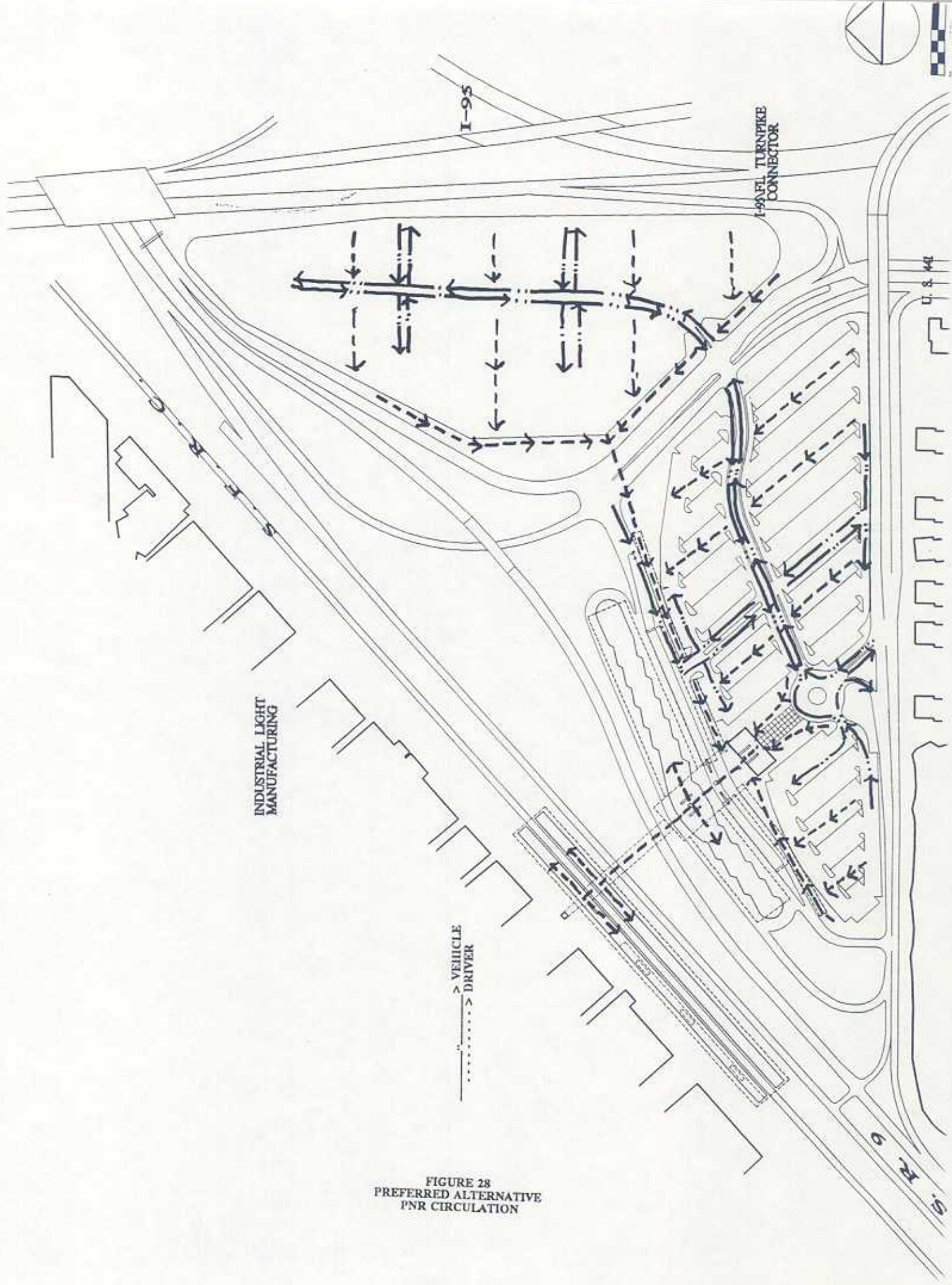


FIGURE 28
PREFERRED ALTERNATIVE
PNR CIRCULATION

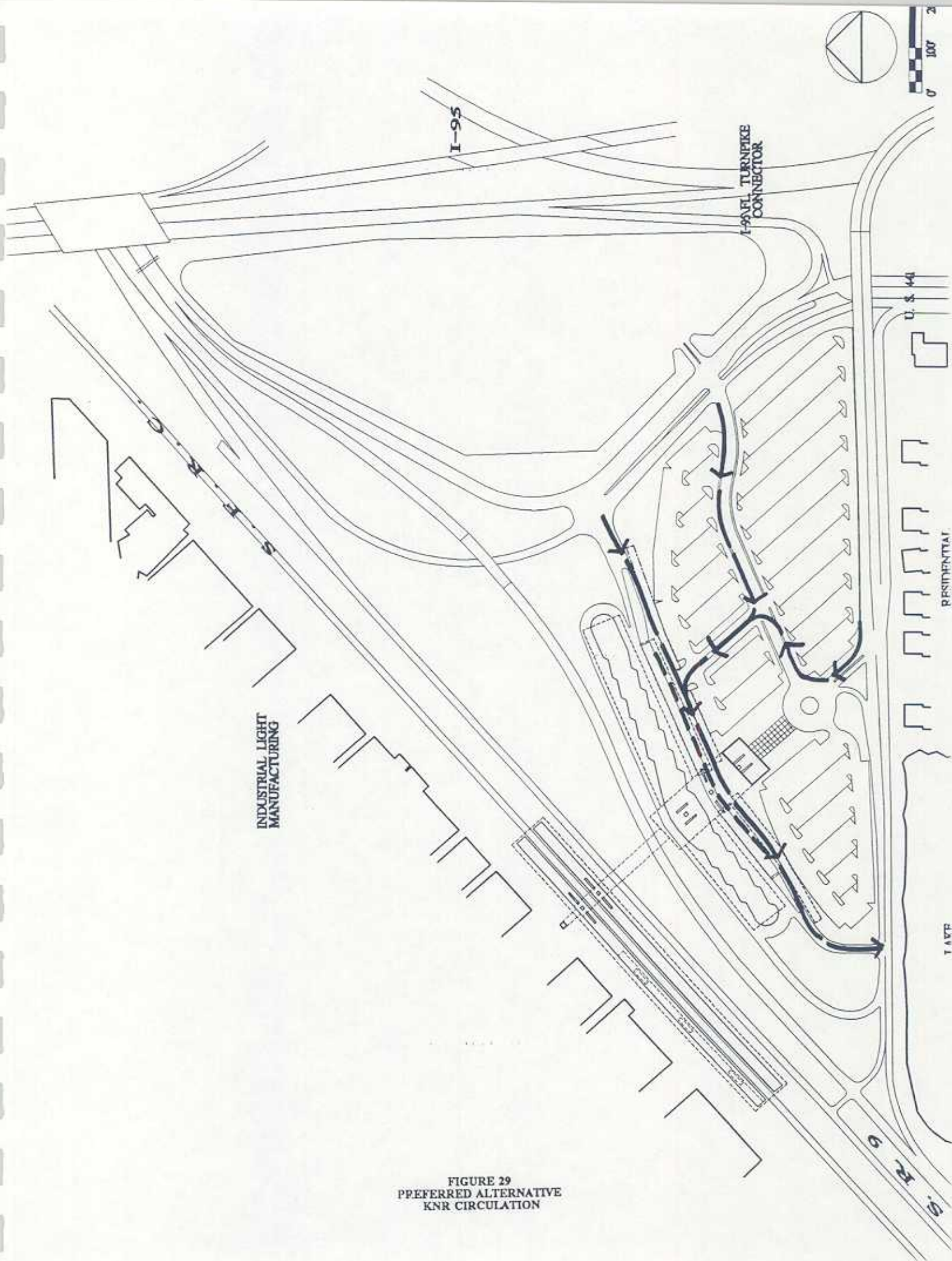
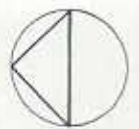
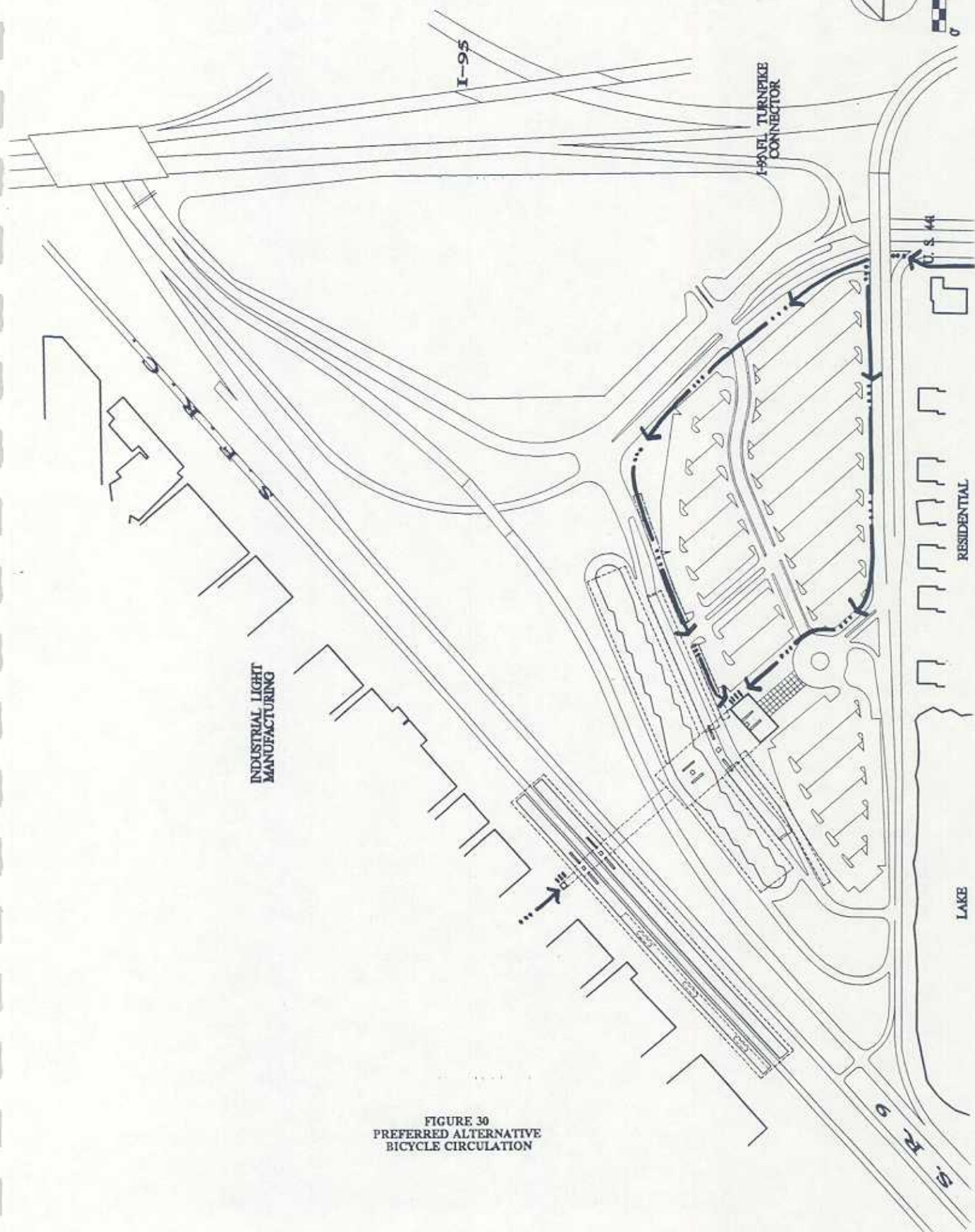


FIGURE 29
PREFERRED ALTERNATIVE
KNR CIRCULATION

FIGURE 30
PREFERRED ALTERNATIVE
BICYCLE CIRCULATION



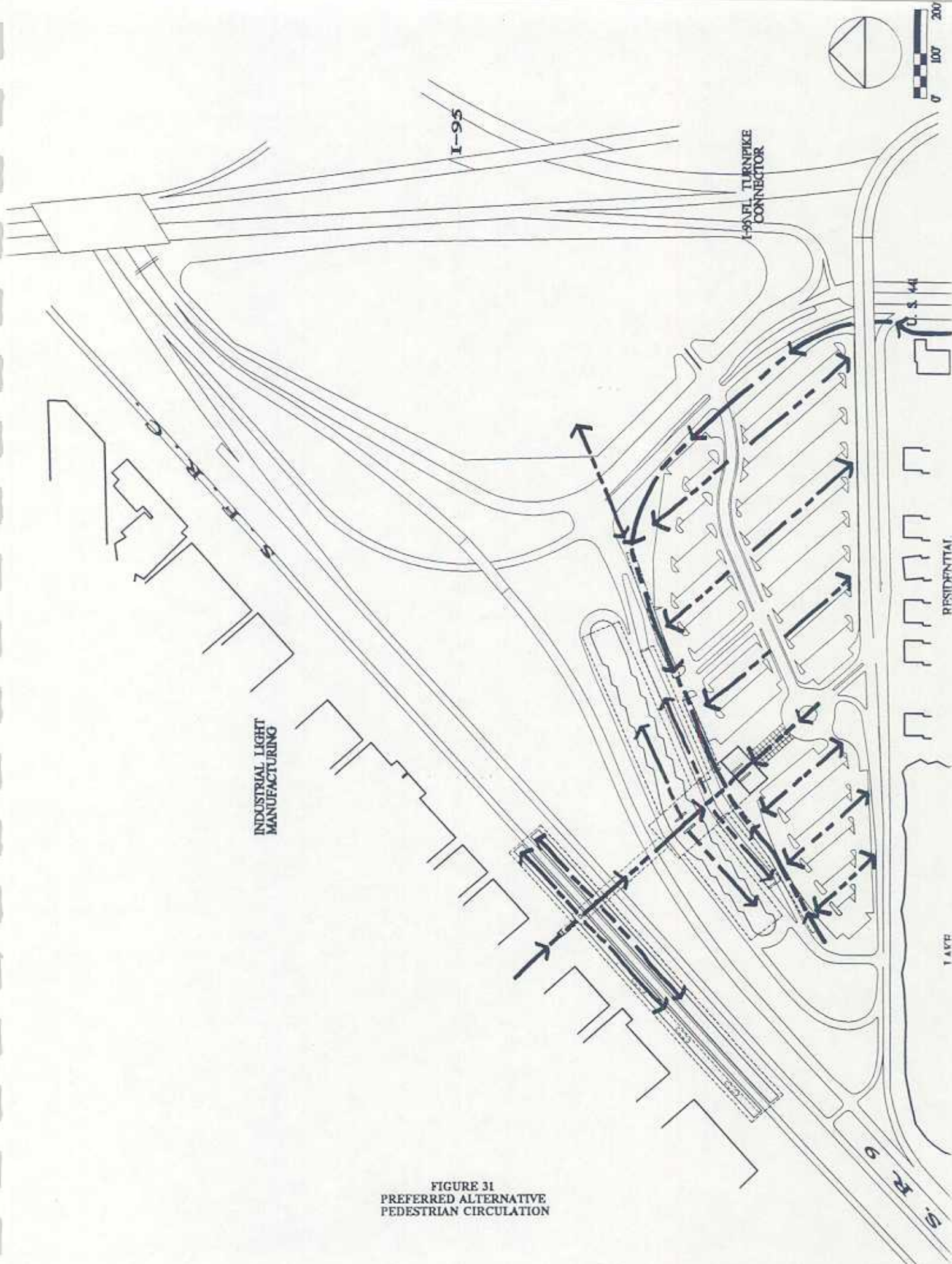


FIGURE 31
PREFERRED ALTERNATIVE
PEDESTRIAN CIRCULATION

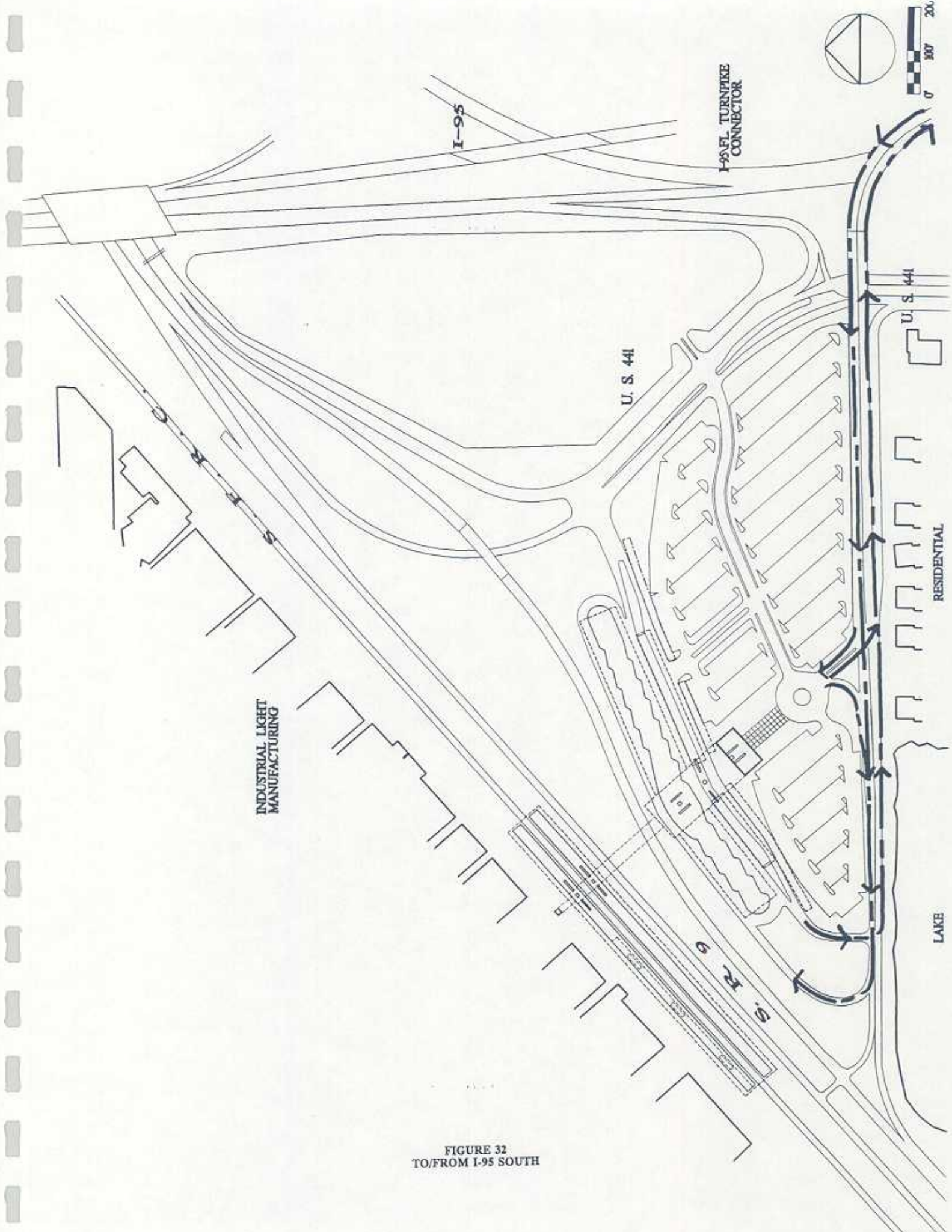


FIGURE 32
TO/FROM I-95 SOUTH

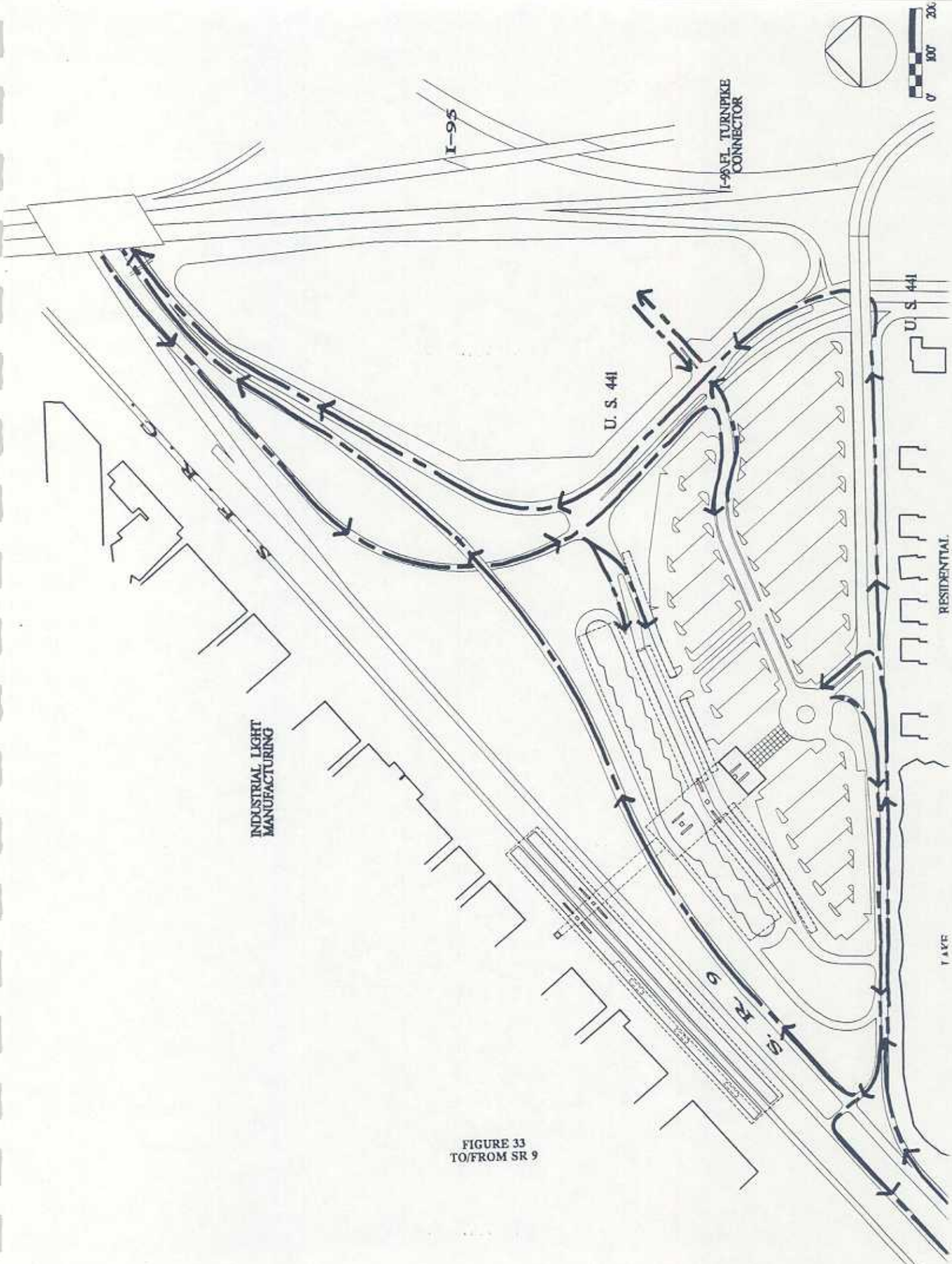


FIGURE 33
TO/FROM SR 9

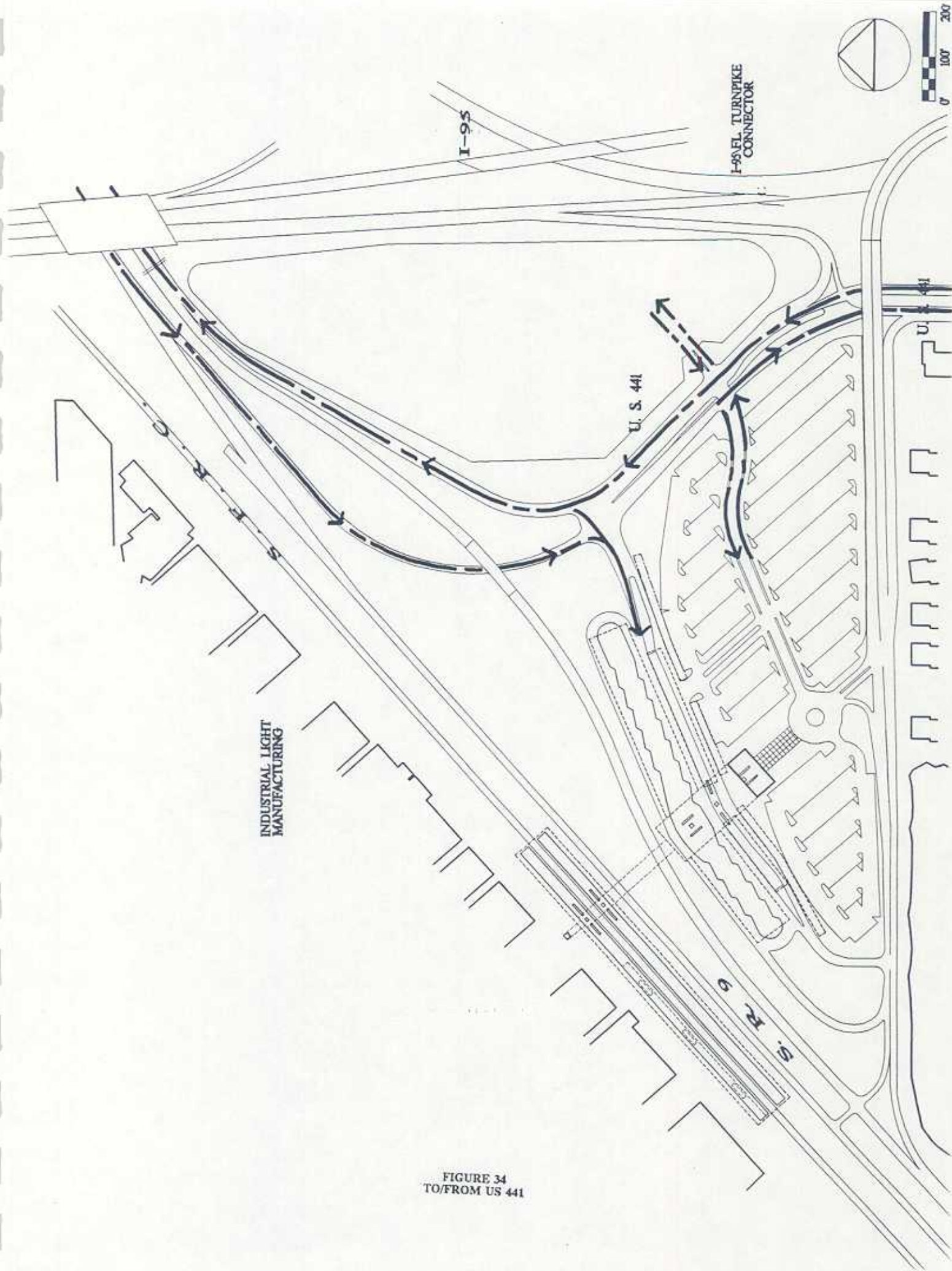


FIGURE 34
TO/FROM US 441

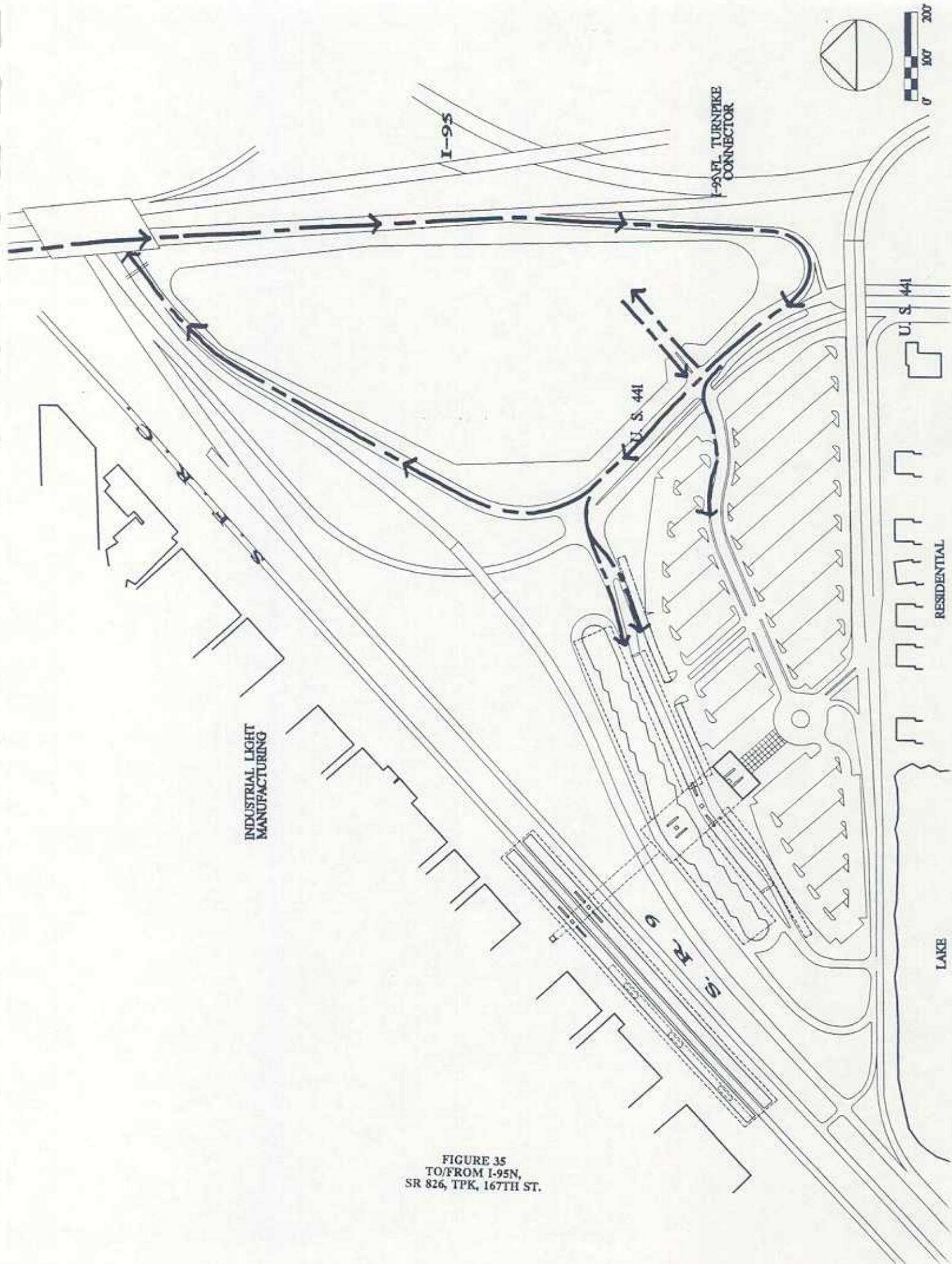


FIGURE 35
TO/FROM I-95N,
SR 826, TPK, 167TH ST.

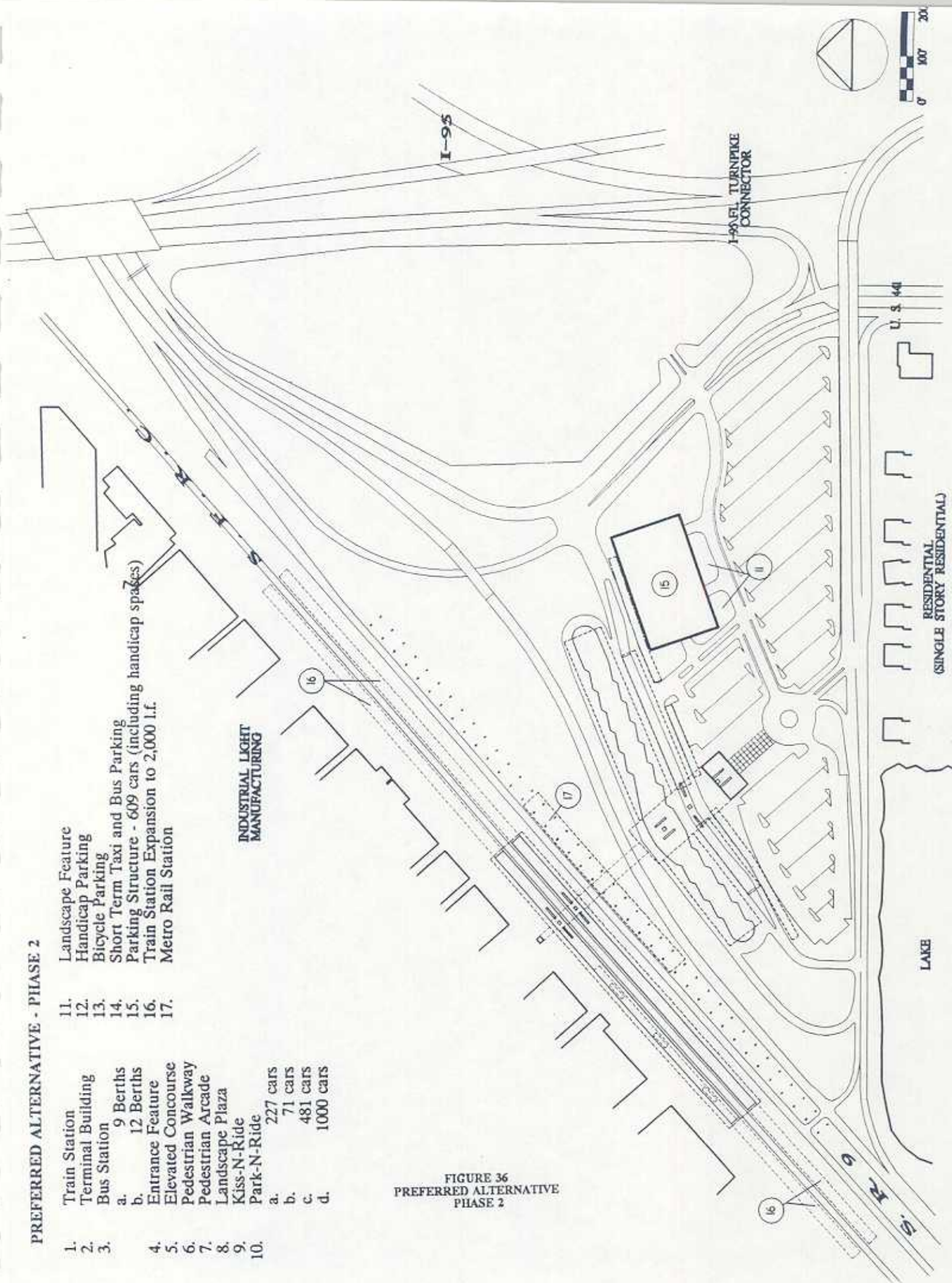
PREFERRED ALTERNATIVE - PHASE 2

1. Train Station
2. Terminal Building
3. Bus Station
 - a. 9 Berths
 - b. 12 Berths
4. Entrance Feature
5. Elevated Concourse
6. Pedestrian Walkway
7. Pedestrian Arcade
8. Landscape Plaza
9. Kiss-N-Ride
10. Park-N-Ride
 - a. 227 cars
 - b. 71 cars
 - c. 481 cars
 - d. 1000 cars

11. Landscape Feature
12. Handicap Parking
13. Bicycle Parking
14. Short Term Taxi and Bus Parking
15. Parking Structure - 609 cars (including handicap spaces)
16. Train Station Expansion to 2,000 l.f.
17. Metro Rail Station

INDUSTRIAL LIGHT
MANUFACTURING

FIGURE 36
PREFERRED ALTERNATIVE
PHASE 2



PREFERRED ALTERNATIVE - PHASE 3

1. Train Station
2. Terminal Building
3. Bus Station
 - a. 9 Berths
 - b. 12 Berths
4. Entrance Feature
5. Elevated Concourse
6. Pedestrian Walkway
7. Pedestrian Arcade
8. Landscape Plaza
9. Kiss-N-Ride
10. Park-N-Ride
 - a. 227 cars
 - b.
 - c. 481 cars
 - d. 1000 cars
11. Landscape Feature

12. Handicap Parking
13. Bicycle Parking
14. Short Term Taxi and Bus Parking
15. Parking Structure - 609 cars (including handicap spaces)
16. Train Station Expansion to 2,000 l.f.
17. Metro Rail Station
18. Mid-Rise Office Building (10 stories)
19. Two Story Pedestrian Arcade

INDUSTRIAL LIGHT
MANUFACTURING

FIGURE 37
PREFERRED ALTERNATIVE
PHASE 3



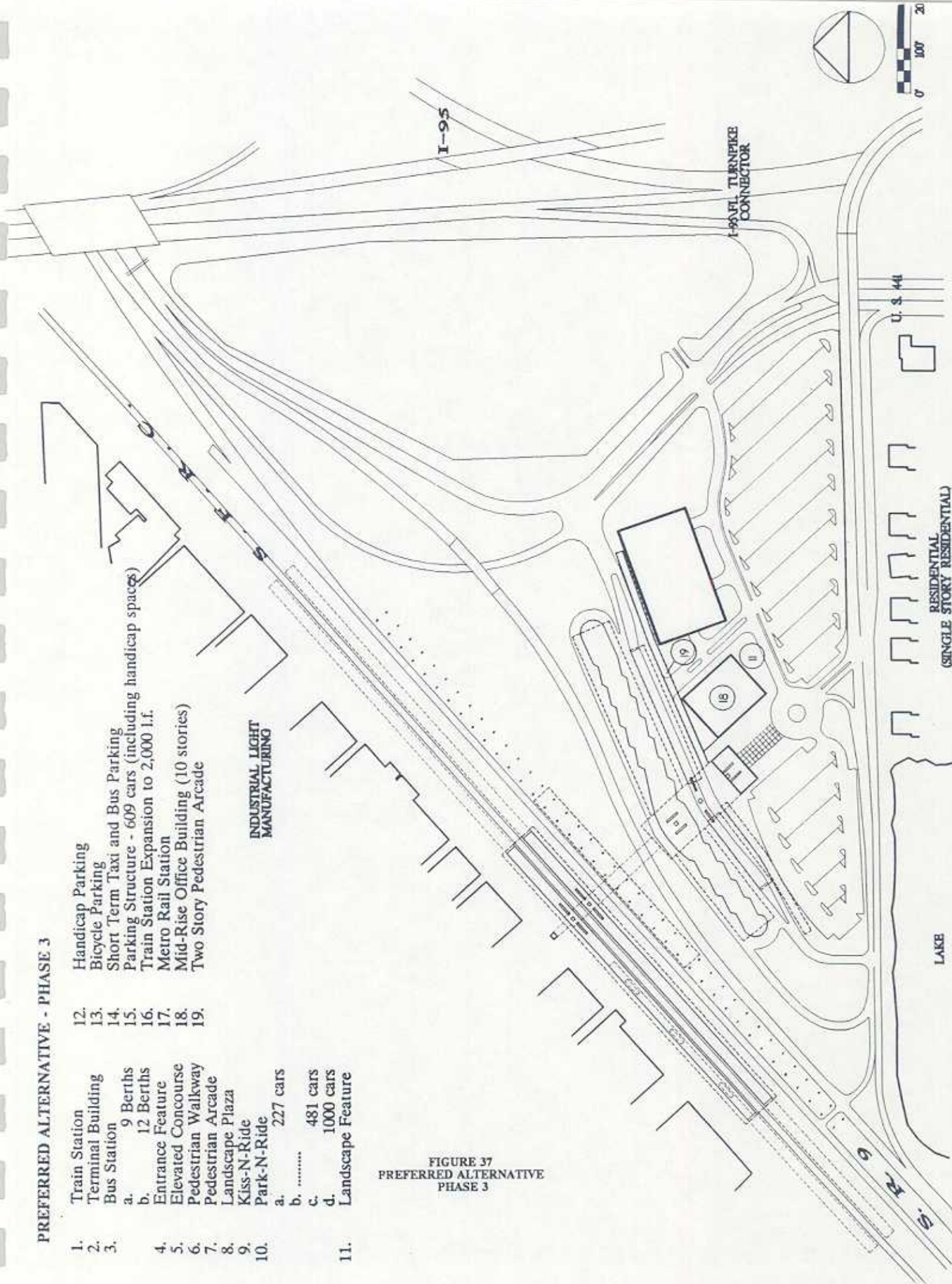
I-95

I-95 R.L. TURNPIKE
CONNECTOR

U. S. 441

RESIDENTIAL
(SINGLE STORY RESIDENTIAL)

LAKE



PREFERRED ALTERNATIVE - PHASE 4

1. Train Station
2. Terminal Building
3. Bus Station
4. a. 9 Berths
5. b. 12 Berths
6. Entrance Feature
7. Elevated Concourse
8. Pedestrian Walkway
9. Pedestrian Arcade
10. Landscape Plaza
11. Kiss-N-Ride
12. Park-N-Ride
13. 87 cars
14. a.
15. b. 481 cars
16. c. 1000 cars
17. d. Landscape Feature
18. Handicap Parking
19. Bicycle Parking
20. Short Term Taxi and Bus Parking
21. Parking Structure - 609 cars (including handicap spaces)
22. Train Station Expansion to 2,000 l.f.
23. Metro Rail Station
24. Mid-Rise Office Building (10 stories)
25. Two Story Pedestrian Arcade
26. Low-Rise Office Building (3-4 stories)

INDUSTRIAL LIGHT
MANUFACTURING

FIGURE 38
PREFERRED ALTERNATIVE
PHASE 4

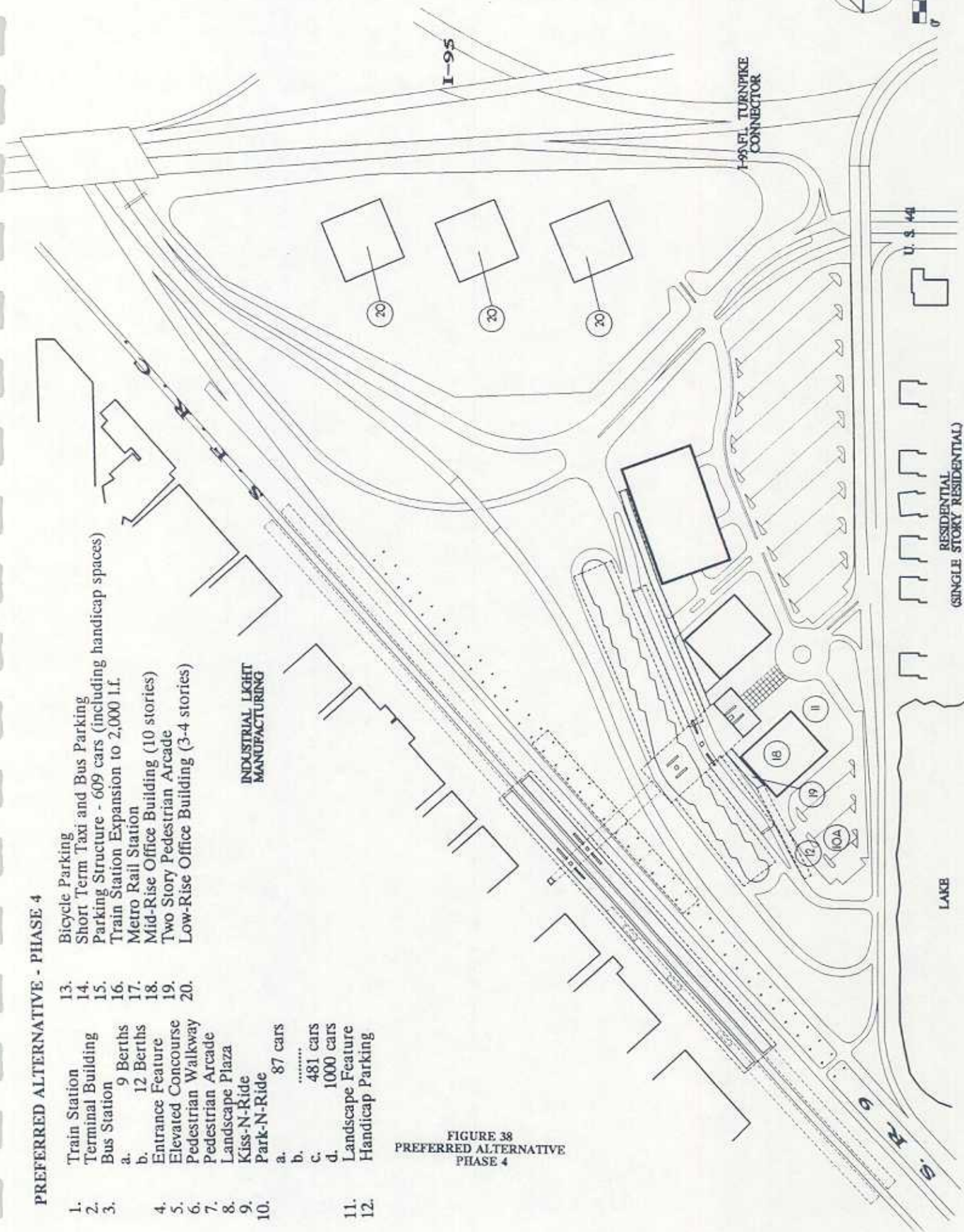
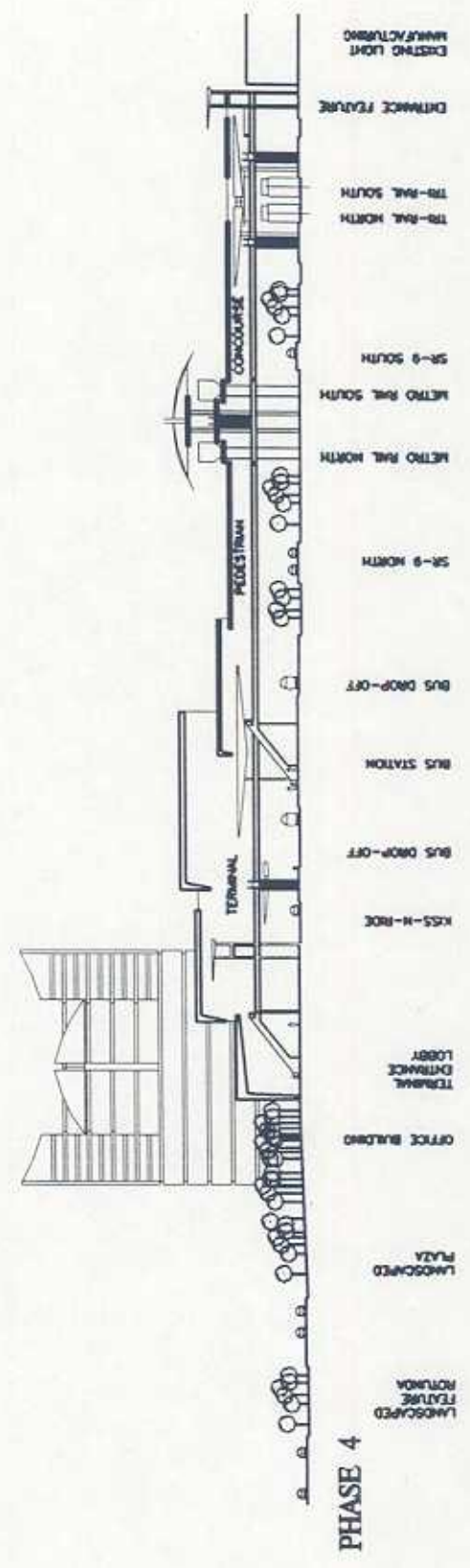
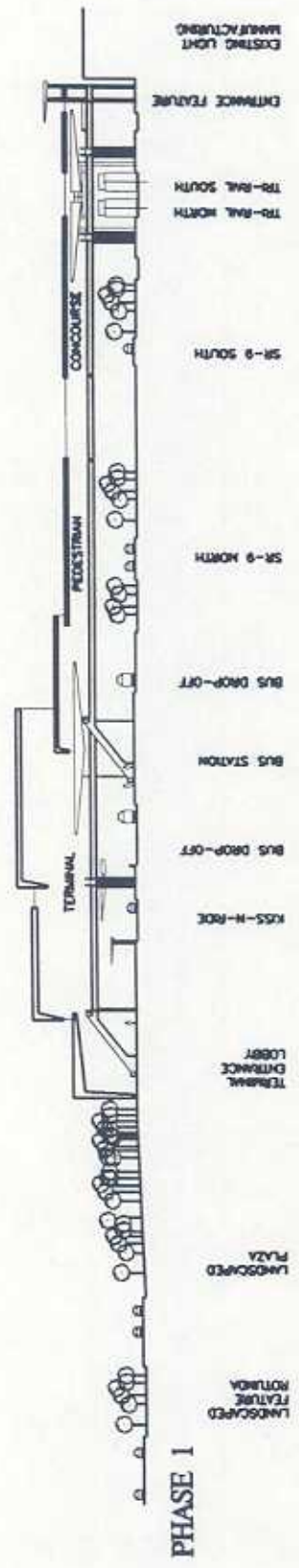
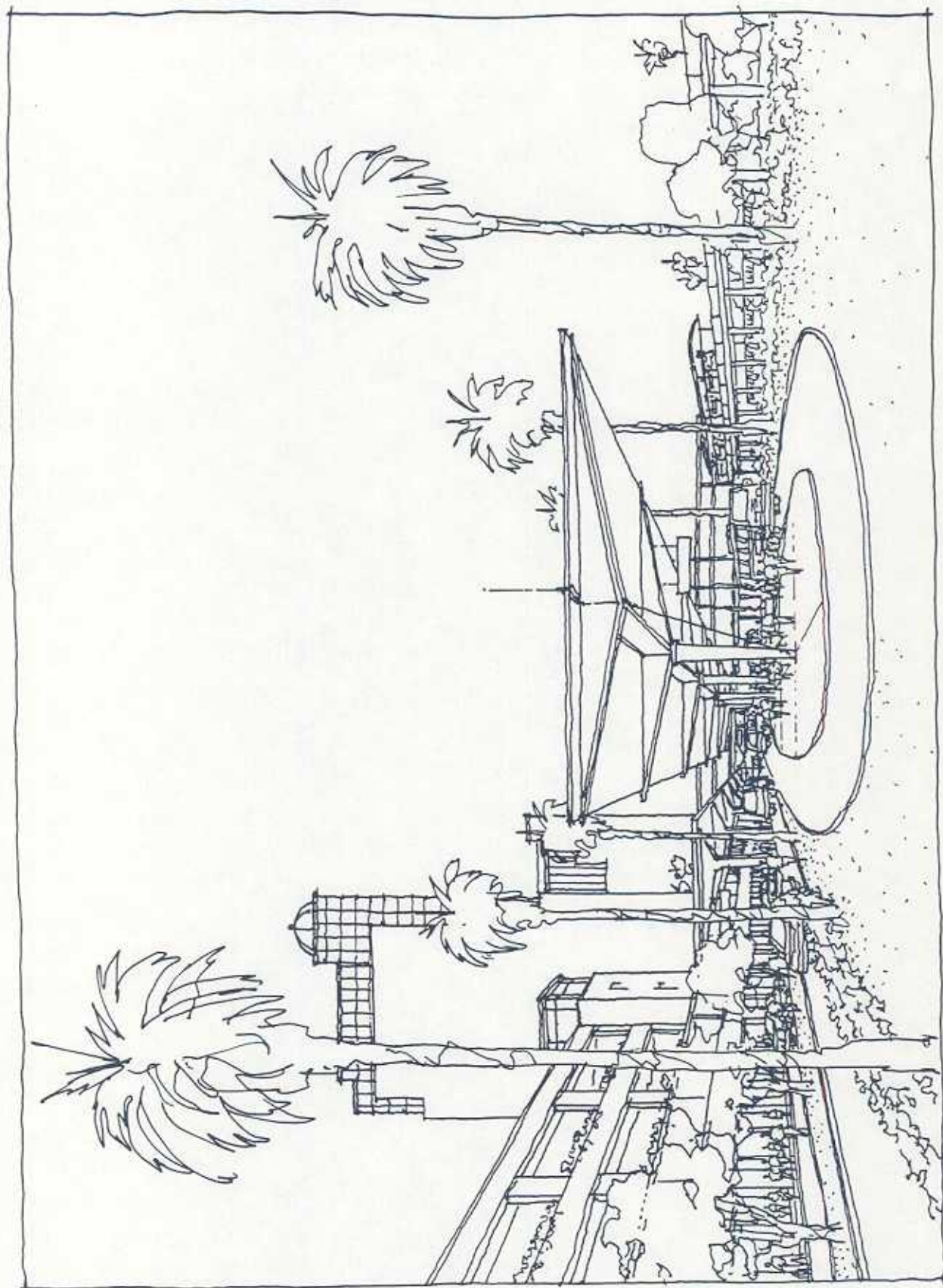


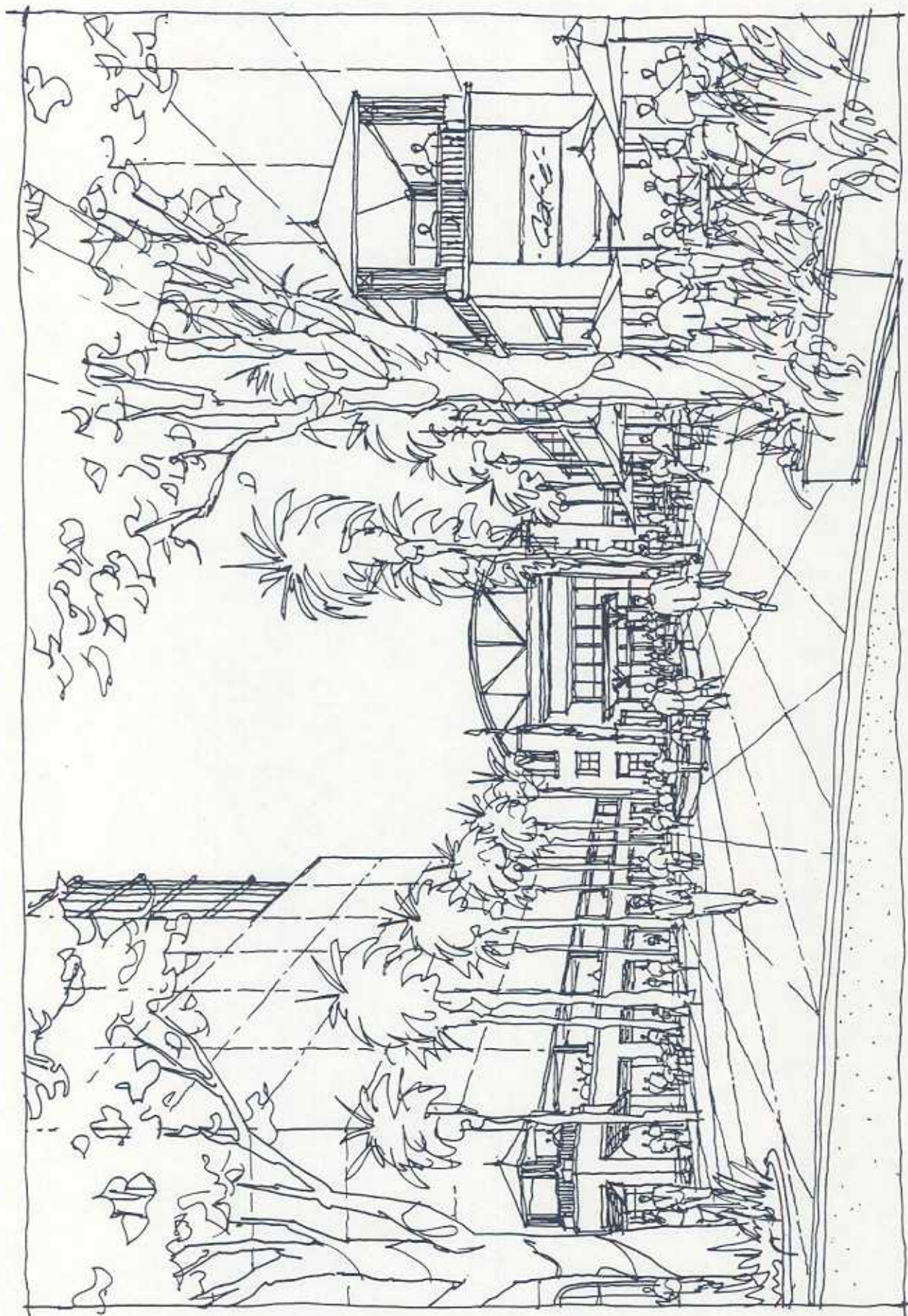


FIGURE 39
PREFERRED ALTERNATIVE
CROSS SECTIONS





VIEW OF STATION



VIEW OF ENTRY PLAZA

APPENDIX A

STEERING COMMITTEE EVALUATIONS OF ALTERNATIVE CONCEPTUAL LAYOUTS GOLDEN GLADES MULTIMODAL TRANSPORTATION FACILITY

The following are comments received from members of the steering committee on the Golden Glades Multimodal Facility Feasibility Study, and the consultant's responses to them. Steering committee members were given sketches of three alternative layouts of terminal, parking and vehicle circulation on the Golden Glades park and ride lot, and asked for their opinions regarding strengths and weakness of each alternative scheme. The consultant appreciates both the promptness of the responses from the committee members, and the expert insight which detected the flaws and advantages in each scheme.

COMMENTS FROM ANNE S. BREWER, P.E., AVIATION/INTERMODAL ADMINISTRATOR, FDOT
DISTRICT SIX

Comments

Responses

General:

After reviewing the evaluation criteria it was not clear as to what was being evaluated under the design features.

At this scale, some of the listed design criteria are not visible. Our primary concern at this point is the ability of the multimodal center to accommodate all current modes, and not to obstruct potential future modes. Secondary, but by no means unimportant concerns are site circulation, convenience, expandability, attractiveness to potential users, etc.

Criteria to minimize internal travel distances? If reference is made to the walk from a pedestrian parked car to the terminal or to the TriRail platform we believe that all schemes would rank low.

Because of the physical arrangement of the facilities at Golden Glades, with SR 9 between the Tri-Rail station and the park and ride lot, there does not appear any way to avoid a walk of approximately 400 feet from the bus or car drop-off, or a parking place, to the rail station. We have tried to minimize this by placing the terminal as close to the rail station as possible. Escalators/elevators from the ground level to the pedestrian (second) level will replace the current ramp and reduce the walk. We are also suggesting moving walkways on the pedestrian level as a possible addition.

New criteria should be added to evaluate the entrance and exit locations and how they access surrounding highway networks. Also add criteria to evaluate internal circulation for the facility.

Will comply.

Another criterion should be added to minimize the separation between the TriRail Station and the Terminal Facility.

The location and functioning of the Kiss and Ride is not clearly indicated in the schemes.

What are the estimated construction costs for the various schemes?

Scheme A:

Where is the Kiss and Ride located?

Identify Pedestrian Walkways (include more walkways)

How is I-95 Express Bus Circulation accomplished?

Separation between driveways into the parking area shown to be 200'. Desired distance S/B is 350'.

How is SR 9 inbound circulation accomplished?

Include circulation patterns for SR 9, I-95, 167 St., etc. for the Park and Ride circulation diagram.

Scheme B:

Where is the Kiss and Ride?

Major conflicts between SR 9 and internal circulation.

This is what was meant by "Minimization of internal travel distances."

Will clarify.

Will provide program-level estimates.

The pointer for Kiss and Ride, feature 9, was inadvertently omitted. It should point to the lane with a dashed line, parallel to the bus lanes. (Also shows on KNR circulation plan.)

Will comply.

95 Express circulation will be shown more clearly on the final alternative. It uses the exit ramps to/from I-95, and circles the bus platform clockwise, travelling between the ramps and platform on the south perimeter of the PNR lot.

The plan is being revised to have only one entrance off US 441.

Beginning at the SW corner of the site, it travels east to the I-95 ramps, turns left under the ramps (same as now), and travels to the terminal or the PNR lot on a perimeter road running NW parallel to US 441.

Will comply.

Between the terminal (2) and the NB lanes of SR 9. It should be labelled 9. (Visible on KNR circulation plan.)

The circulation plan in the preferred alternative will resolve this.

Reverse curve on I-95 express ramps. Need to coordinate with bus operations.

Ditto.

Bus and Car Traffic is not separated. Prefer not to mix the two traffic patterns.

This is being revised.

Scheme only shows one entrance/exit.

Entrances/exits to and from SR 9 and I-95 will be made more obvious.

Scheme C:

Distance from terminal building to TriRail Station is large (approx. 400'-500').

See first comment on page 1.

Express bus access onto I-95 S.B.?

Will be revised and shown more clearly.

How many bus bays are needed?

MDTA should answer this. The four which currently serve the Golden Glades PNR appear to be adequate now. In all schemes, bus bays can be added as needed.

What about grade separation of SR 9.

A median crossover on SR 9 has recently been added near the SW corner of the PNR, at a location which showed signs of illegal crossovers. Although SR 9 is not a fully grade-separated roadway at this location, we have shown a possible arrangement to improve the grade-separation characteristics by putting a new ramp under the existing bridge. This ramp will be labelled "Possible future ramp."

COMMENTS FROM CARLOS ROA, METRO-DADE MPO SECRETARIAT

Technical Memorandum No. 1

1. On p. 3 - Physical Improvements:

a) Handicap access to both Metro-bus & Tri-Rail should be better addressed. Right now, a ramp to board the Tri-Rail train exists but getting there from the parking lot is a physical challenge even for those non-handicapped.

Will comply. Will MDTA and Tri-Rail install features (say, escalators) on an interim basis, or will they wait for the first phase of a more permanent terminal?

b) Also, a small bicycle rack or even bicycle lockers could be provided through the Bicycle/Pedestrian Program of Dade County. (Mention it).

Will comply.

c) Although one pay-phone exists, a couple more phones by the bus-bay could be provided.

Will mention in report.

2. On p. 4 - Public Information and Promotion:

a) Sufficient Bus-route information and transit maps should be available on site.

Agree.

b) Tri-Rail riders cannot make a transfer to the Express Buses unless a \$1.25 fee is paid. As part of promotion efforts, MDTA could explore a strategy that could lower transfer costs to train riders and commuters gaining access by other modes of transportation other than MDTA transit.

Suggest MDTA and Tri-Rail explore.

3. Alternatives for Conceptual Layouts of Proposed Multimodal Facility

a) On Scheme "B" Phase 1: The Bicycle Parking identified with (13) is not shown on the actual map.

The pointer was inadvertently omitted. Will show.

b) On Scheme "C" - Phase 1: The Bicycle Parking identified with (12) is not shown on the layout.

The pointer was inadvertently omitted. Will show.

4. Evaluation of Intermodal Facility Alternatives - Table 1

a) Comparing accommodations of the three proposed schemes:

	A	B	C
Parking: (spaces)	2,144	2,463	1,963
Bus Berths:	20	14	18

Do I see, Scheme A as the one providing a higher accommodation for less capital cost at this preliminary level?

Yes.

I believe when it comes to alternative solutions comparison, quantity of services vs. cost is always taken as a definitive measure for decisions. I understand I am not considering the other 20+ specific attributes taken into consideration, but at least I recommend capital cost goes to the bottom of the 2nd page so it is not side by side with the ability of accommodating current modes.

Will revise Table 1. Also, please see comments by other steering committee members regarding necessity of making facility visible and attractive to users.

COMMENTS FROM FRANK ZEINALI, P.E., PROJECT ENGINEER, TRI-COUNTY COMMUTER RAIL

1. Our comments on the Draft Report are attached.
2. Comments on the schematics are:

The Draft Matrix table does not indicate a clear distinction between schemes B and C.

In scheme C, the terminal is "in front of" all vehicle circulation lanes, and visible from the PNR lot and some of the surrounding roadways. In scheme B, northbound SR 9 is elevated (on fill, except for underpasses) and relocated to the southeast. The terminal is "behind" the SR 9 embankment, and not visible from the PNR lot.

We are in favor of Scheme B, with the following modifications:

a) It is assumed that Metro-Rail will access the Intermodal Center via SR-9 Right-of-Way.

It seems to be the consensus that this is the most desirable location, and the preferred alternative will so indicate. If there is not space in the median of SR 9 to accommodate Metrorail at grade, there is space for a structure to elevate it.

b) Buses should not crowd the entrance areas of the Center. The associated noise, and fumes do not depict a safe and convenient environment. Bus traffic should be separated from other modes of access, but must have convenient access.

We think we can achieve this in the preferred alternative by having the terminal somewhat separated from the bus platform.

c) With few redesigns, the parking areas can be configured to accommodate the preferred alternative. The station areas must not be designed to accommodate the existing configuration of the PNR.

We agree.

d) It appears that enough R/W is available to implement the multi level train station as proposed in the consultant drawings. Slight modifications to the SR-9 configuration will facilitate this.

e) Intermodal connections should be as convenient as possible. Priority should be given to fixed guideway transit modes, i.e. Tri-Rail, Metro-Rail.

f) The preferred alternative should include:

- Easy intermodal connections
- Aesthetically pleasing designs, with provisions for architectural features, landscape, and hardscape.
- Provisions for a possible AmTrack station.
- Provisions for expanded platforms for Tri-Rail.
- Provisions for High Speed Rail. High Speed trains will most probably use Tri-Rail tracks and/or R/W.

3. In a recent meeting regarding the Miami Airport Intermodal Center, we provided Mr. Tony Herrero (B&A) our preferred schematic for further consideration.

We suggest that a trip generation destination study to be performed to determine the best possible solutions for dealing with proper access form.

It is our understanding that you will conduct a presentation regarding the study to the TPC in the November meeting. We will be happy to assist you with your presentation should you so desire.

If the double-tracking of the SFRC proceeds as currently planned, with the new track center fifteen feet north of the existing main line track, the rail platforms must be outside platforms, rather than inside (shared) platforms. If the existing spur is retained, as is also planned, there is not sufficient space for more trackage at grade. This does not appear to be a problem, as Amtrak and freight will share the Tri-Rail tracks, and high-speed rail can also.

All schemes assume that the rail modes remain in their current and programmed locations, with Metrorail in the SR 9 median.

We agree, and we intend that it shall.

We thank you for these, and will use them in our configuration of the preferred alternative.

We agree that this would be helpful, but it is not within the scope of the present study. Perhaps the next stage study can include it.

You have already helped us by showing us your standard station plans and by sending these comments promptly. Thank you!

COMMENTS FROM THOMAS F. RAWLS, E.I., TDM COORDINATOR, GOLD COAST COMMUTER SERVICES

We have reviewed the three schemes presented and favor "Scheme C". We realize that this scheme is probably the most expensive to implement, but it appears to develop the most "commuter friendly" environment of all of the alternatives presented. Also, despite the cost, the elements of this scheme (covered walkways, grade separation, etc.) could attract the most commuters to high occupancy vehicles, making it the most cost effective alternative in the long run. "Scheme C" appears most appropriate for the following reasons:

1. *Centralized Terminal/Walkway Development.* In "Scheme C", all of the facility activity is focused on the centralized terminal and walkway. Consequently, the commuters will benefit from the concentration and accessibility to any amenities they may desire. From a business (amenity provider) perspective, a centralized terminal/walkway will channel commuters (buyers) down a single path on which the individual amenity providers are located. Like the amenities, commuter information (IVHS monitors, information/ticket booths, commuter store, etc.) will become centralized. Instead of having to provide accurate, up-to-date information at various facility locations, one or two centralized locations will be sufficient.
2. *Minimizing Pedestrian Conflicts in Terminal Area.* With sheltered pedestrian walkways and an elevated concourse converging into a terminal building, the facility adequately separates pedestrians from vehicular traffic in the terminal/transfer area. Grade separation will ease the commuter's concerns with safety as well as remove the commuter from noxious vehicle exhaust.

In the selection of "Scheme C", there remain two areas of concern:

1. *Shortage of Terminal Building Space.* With the possible provision of amenities such as a dry cleaning service or a convenience store, the amount of space allocated for the terminal building and centralized walking areas could be further evaluated. This evaluation could include a more accurate determination of the amounts of space allocated for retail outlets, an information/ticket booth, a commuter store, an IVHS operations center, commuter/transit operator waiting areas, rest rooms, escalators/stairs, outside balcony waiting areas, etc.

In all schemes, the initial (Phase 1) terminal is intended to be of a size to support the currently known needs, but to be expandable at both ends to accommodate growth.

2. *Lengthy Walking Distances with Pedestrian-Vehicle Conflicts.* The unique transit access points within the Golden Glades facility create a problem with lengthy walking distances and pedestrian-vehicle conflicts. Referring to "Scheme C, Phase 1, Master Plan", the 9a and 9b parking locations appear to be the only parking facilities adequate for safe and convenient pedestrian access to the terminal/transfer area. The roadway that separates parking lots 9a and 9b acts as a pedestrian barrier. Although it may further complicate traffic circulation, perhaps this roadway could be configured in the south portion of parking area 9c. Parking lot 9d presents a pedestrian and high speed vehicle conflict by forcing commuters to cross the roadway that provides direct vehicle access between the facility area and the surrounding major highways. This situation may justify the inclusion of a pedestrian overpass from lot 9d to the pedestrian walkway entrance feature (#14 on map). The 9d lot also requires the commuter to walk relatively lengthy distances to the terminal facilities. Another alternative addressing both of these issues would be to provide a shuttle/tram service from the distant parking facilities to the terminal building. Although this suggestion may not be appropriate for immediate implementation, it could be addressed now for future facility growth.

Please refer to the first response on page 1. The circulation within the parking area west of US 441 is being revised to minimize through traffic by providing perimeter roadways which will channel vehicles entering and exiting the area. We agree that a pedestrian bridge over US 441 would enhance the eastern parking area, although the intersection is currently signalized.

The maximum walk to the terminal from the farthest parking space on the west side of US 441 is about 1000 feet; from the east side, about 1600 feet. This is about a six-minute walk. In later phases, the addition of parking structures near the terminal will put a larger proportion of the parking closer to the terminal.

COMMENTS FROM MARIA BATISTA, PRINCIPAL PLANNER, MDTA

Scheme A

Bus Circulation

- State Road 9 egress is being emphasized, while bus circulation to and from I-95 South bound is not shown on this scheme.
- Based on the bus circulation, an additional signal light will be necessary to exit East (cutting across 441 off/on ramp).
- Park & Ride schematic seems to have a good flow.
- For Kiss & Ride circulation, based on the schematic provided, we question the left turn into the parking lot. There seems to be no thruway available, leaving the driver to meander through the parking lot to exist the facility. Additionally, there seems to be no exclusive drop-off area for kiss-and-ride patrons as the same road is shared with those who park and ride.

It is important, and will be shown clearly.

The bus circulation is being revised to allow only one intersection from the PNR to US 441.

Comment noted.

The circulation is being revised to direct this traffic onto perimeter roads. There is an exclusive dropoff area for KNR, but it was not marked clearly. This will be clarified. Also shows on KNR circulation plan.

Scheme B - Phase 1

- Kiss & Ride area is not depicted in the schematic.

It exists, but was not clearly marked. Visible on KNR circulation plan.

Scheme B - Phase 2

- Based on the bus circulation schematic provided, the buses for the Intercity bus terminal would have to back out from their berths creating a safety hazard. Additionally, the bus circulation to and from the terminal to I-95 South is unclear. However, it is do-able if treated the same as the Park & Ride flow. We believe this schematic shows good circulation, and prefer the single access point.

The intercity bus bays are being deleted. Any intercity buses will use regular bays. The I-95 bus circulation will be around the perimeter, similar to today's situation.

- The relocation of State Rd. 9 is not desirable.
- The circulation for the Park & Ride is preferred for this Phase 2, as it provides less interference with Kiss & Ride.
- The Kiss & Ride circulation depicted is good.
- Pedestrian Access - Pedestrian circulation coming from parking lot 10C & 10D is not clearly indicated.

Scheme B - Phase 3

- The Mid-Rise office building is not correctly depicted (currently shown in schematic as a parking structure). Additionally, there are no pedestrian walkways nor connections to parking garages nor terminal building shown.

Scheme C - Phase 1

- Master Plan schematic has no Kiss & Ride area depicted.
- The Bus Circulation to and from the terminal to I-95 South is not depicted. Additionally, in this schematic, exiting the station would create queuing problems as not enough space is provided for both the Kiss & Ride and the bus activity.
- Park & Ride - access to I-95 is not shown on the schematic.

Comment noted. This scheme was included to explore its possibilities and contrast it to other schemes.

Comment noted.

Comment noted.

Circulation is being revised and will be clarified.

Markings will be corrected. Pedestrian pathways will be shown more clearly.

It exists, but its mark was inadvertently omitted. It does show on KNR circulation plan.

Bus circulation will be shown clearly in the preferred alternative. We don't think there would be a queuing problem, but the point is moot since the circulation is being revised.

Circulation will be shown clearly in the preferred alternative.

May we suggest the circulation to Scheme C be re-studied to be oriented to go counter clockwise, avoiding the crisscross thruway exit. This may require a too sharp of a turn for buses because the bus terminal has been extended. However, if re-designed, it may possibly be attained. Additionally, with the counter-clockwise orientation, buses would be entering through the center entrance, which would allow for having an exit to I-95 south, where most buses are heading to.

Overall Scheme B - Phase 2 seems to provide the best circulation for buses, Kiss & Ride and Park & Ride. However, we do not support S.R. 9 being relocated. This scheme should be further analyzed so that the aspect of circulation provided by Scheme B Phase 2 be attained without S.R. 9 realignment.

The preferred scheme should seriously consider facilitating as much as possible the access to and from I-95 southbound and northbound, as these seem to be the most traveled access roads.

We also support venturing into joint development, and providing additional amenities for the riders at the station.

Regarding the number of berths required, Wilson Fernandez provided Kaiser Engineers with the information necessary to acquire the data.

We agree that a counter-clockwise bus movement around the perimeter of the site provides better access to entrance/exit roads, including I-95 SB, while avoiding bus traffic across the PNR lot. Since the terminal, or at least the bus platform, requires clockwise circulation, this causes buses to cross each other's paths and requires some circuitous travel. However, the advantages appear to considerably outweigh the disadvantages.

The preferred alternative combines the best of these features.

The I-95 access will be facilitated in the preferred alternative.

We agree that these are very important to the success of the multimodal facility.

The information provided was which bus routes presently serve Golden Glades, and which ones may do so in the future. This is not sufficient to determine how many bays will be needed; also required are frequency and dwell times, as well as firm service routes. The four bays which currently serve the Golden Glades PNR appear to be adequate for present needs. The design phase of this project can estimate the number of bays which will be required at the time the multimodal facility is built. In all schemes, bus bays can be added as needed, up to approximately 16.

COMMENTS FROM GUILLERMO E. OLMEDILLO, AICP, PLANNING DEPARTMENT, METRO-DADE

1. This Department encourages the maximization of modes and passenger services in the facility to increase its use, safety, comfort and attractiveness to prospective HOV patrons. This site has the potential to evolve into a North Dade gateway in the future if multimodal services connections throughout North Dade are provided. Accordingly, we encourage a design that provides the ambience of a terminal building, more than simply a bus stop. Ample shelter from sun, pavement heat and wind-driven rain is a must. It appears that Alternative 3 best exhibits these characteristics. In addition, however, we encourage the inclusion of concession services including fast-food, newsstand, video rental, sundries, dry cleaner drop off, and similar uses in the terminal or in an adjoining building having exposure to SR 9. Perhaps a full-service gasoline/auto service station should also be considered in the initial phases near the SR 9 frontage. A small number of short-term parking spaces could be provided near the SR 9 frontage to serve drive-by customers which would supplement the concessionaires transit patrons. We believe that added attention to HOV patron comfort and convenience is necessary to encourage HOV use as an alternative to the perceived safety, convenience and comfort of the single occupant automobile. As proposed in later phases, it appears appropriate to consider additional office and business uses on eastern portions of the site.

We agree with all these comments. Many of these features are not obvious at this stage of study of the facility, but will be included in the design stages. We believe that a very visible, attractive and comfortable facility will get attention and draw more ridership.

2. While we are not aware of all facts relating to the September 30, 1991 letter by Richard Glass of FDOT denying Greyhound bus company's request to relocate their terminal to Golden Glades, we encourage FDOT and the County to encourage Greyhound to locate in this facility. It seems to use that intercity bus service and local/regional transit services would be mutually complementary. The increased activity and presence of the commercial carrier would also improve public safety at the facility.
3. The traffic circulation elements of the various alternatives are difficult to discern and, perhaps, are best addressed during subsequent design phases. In general, circulation elements of Alternative 3 appear most appropriate. However, the KNR traffic should be segregated from the bus traffic. Attention should also be given to bicycle access and to pedestrian safety and comfort from the parking lots as well as from off site. All elements of the development, including design of all ancillary buildings should be designed with emphasis on pedestrian comfort and safety.
4. The extensive paved areas should be abundantly landscaped with shade trees to moderate heat absorption and radiation of these surfaces. The southerly perimeter of the site should also be landscaped to buffer the adjacent residential development.
5. Structured parking developed in phases 2 or 3 should be located close to the terminal with direct sheltered access.
6. Zoning of the site should be changed to BU-2 to permit the range of uses including office park and parking garage that might be sought in subsequent phases of development.

The intermodal facility as envisioned is capable of integrating intercity bus service. All that is required are a ticket window, one or more bus bays, and a baggage/package handling area. These can easily be accommodated.

Comment noted and agreed with.

We agree. Landscaping will be delineated in the design stage.

That is the intent in all the schemes. Pedestrian access from the parking structures will also be given priority.

We agree.

